SUPPLEMENT TO NASA Contractor Report 178407

COCKPIT DATA MANAGEMENT

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SUPPLEMENT TABLE OF CONTENTS

ADDENITY A.	SCENARIO COMMUNICATION EVENTS AND DATA LINK IDU PAGES	Page A1
AITENDIA A.	A.1 Normal ILS Approach	
	A.2 ILS Approach With Weather Deviation	
	A.3 ILS Missed Approach With Reroute	
	11.0 12.5 minore reproduct with recourse	
APPENDIX B:	DETAILED MISSION SCENARIOS	B1
		B 5
		B 33
		B69
,	B.4 Normal ILS Approach, Advanced Flight Deck, Nonflying Pilot	B99
	B.5 ILS Approach With Weather Deviation, Conventional Flight Deck, Flying	
	Pilot	B133
	B.6 ILS Approach With Weather Deviation, Conventional Flight Deck,	
	Nonflying Pilot	B141
	B.7 ILS Approach With Weather Deviation, Advanced Flight Deck, Flying	
		B151
	B.8 ILS Approach With Weather Deviation, Advanced Flight Deck,	
	Nonflying Pilot	B161
	B.9 ILS Missed Approach With Reroute, Conventional Flight Deck, Flying	_
	Pilot	B171
	B.10 ILS Missed Approach With Reroute, Conventional Flight Deck,	
	Nonflying Pilot	B179
	B.11 ILS Missed Approach With Reroute, Advanced Flight Deck, Flying Pilot	B187
	B.12 ILS Missed Approach With Reroute, Advanced Flight Deck, Nonflying	D105
	Pilot	B197
	B.13 TCAS Encounter, Conventional Flight Deck, Flying Pilot	B207
	2.11. 10110 2	B213
	2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.20	B217
	B.16 TCAS Encounter, Advanced Flight Deck, Nonflying Pilot	B223
ADDENDING	TLA DETAILED RESULTS	C1
APPENDIX C:	C.1 Normal ILS Approach	
	C.2 ILS Approach With Weather Deviation	
	C.3 ILS Missed Approach With Reroute	
	C.4 ILS Approach With TCAS Encounter	

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APPENDIX A SCENARIO COMMUNICATION EVENTS AND DATA LINK IDU PAGES

APPENDIX A

This appendix defines the chronological sequence of communication related events in each TLA scenario, along with the data link IDU page formats utilized. The scenario time in seconds designating the specific events in each scenario can be utilized to locate the corresponding crew procedures and tasks in Appendix B, which is also referenced to scenario time.

This appendix is presented in three separate sections representing the normal ILS approach, the ILS approach with weather deviation, and the ILS missed approach with a reroute.

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A.1 NORMAL ILS APPROACH

Table A-1 defines the chronological sequence of normal ILS approach scenario events. The events apply to both VHF voice and data link scenarios. Figures A-1 through A-18 illustrate the data link IDU page formats which correspond to the Table A-1 events. The pages are in chronological sequence, with a pointer indicating pilot-selected options on each page.

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Table A-1. Normal ILS Approach

SCENARIO TIME (SECONDS)	COMMUNICATION EVENT
200.4	VECTOR TO DOWNWIND
375.4	DESCENT CLEARANCE
450.0	ETIS REQUEST
464.0	ETIS REPORT FOR ATL
525.4	VECTOR TO BASE
575.4	ILS APPROACH CLEARANCE
675.4	LANDING CLEARANCE
987.4	HANDOFF TO GROUND CONTROL
1014.4	TAXI INSTRUCTIONS

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	R	E	Q	U	E	s	T	s													
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	R	E	Q	U	E	s	T	s													
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															R	E	Т	U	R	N	>

Figure A-1

T U R N R I G H T H E A D I N G

2 7 0 , D E S C E N D M D A N D

M A I N T A I N G 6 0 0 0 M S L .

M O N I T O R A T L A P P R O A C H

O N I 2 7 . 2 5 M H Z .

- E N D O F M E S S A G E -

< U N A B L E

M I F C O > <

Figure A-2

Figure A-3

D E S C E N D A N D M A I N T A I N 5 0 0 0 M S L .

-END OF MESSAGE-

< U N A B L E

WILCO>

Figure A-4

Figure A-5

SYSTEM

RETURN>

ETIS REQUEST FOR KATL B C D A E F G H I J K L M N 0 P Q R S T U V W X Y Z BKSP CLR ENT

Figure A-6

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Figure A-7

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REMARKS: - - -

RETURN>

Figure A-8

Figure A-9

180.

-END OF MESSAGE-

< U N A B L E

w i r c o > <

Figure A-10

<	A	T	С		U	P	L	I	N	K	s		F	L	T		P	L	A	N	>
	P	E	N	D	I	N	G						С	Н	A	N	G	E			
<	R	E	Q	U	E	s	T		F	0	R			U	P	L	I	N	K	s	>
	С	L	E	A	R	A	N	С	E				R	E	С	E	I	V	E	D	
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	R	E	Q	U	E	s	T	s													
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	R	E	Q	U	E	s	T	s													
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															s	Y	s	T	E	M	
															R	E	T	U	R	N	>

Figure A-11

1 2 N M F R O M O M , T U R N

L E F T H E A D I N G I 1 O ,

M A I N T A I N O S S I N G B A H R R ,

U N T I L C R O S S I N G B A H R R ,

C L E A R E D F F O R O N I I L S R W S L

A P P R O A C H , M O N I T O R

T O W E R O N I I I S S A T

< U N A B L E

WILCO> <

Figure A-12

<	A	T	С		U	P	L	I	N	K	s		F	L	T		P	L	A	N	>
	P	E	N	D	I	N	G						С	Н	A	N	G	E			
<	R	E	Q	U	E	s	T		F	0	R			U	P	L	I	N	K	s	>
	С	L	E	A	R	A	N	С	E				R	E	С	E	I	v	E	D	
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															R	E	т	U	R	N	>

Figure A-13

N U M B E R 3 F O R R W 8 L ,

D C - 9 3 N M A H E A D . W I N D

1 1 0 A T 9 , C L E A R E D T O

L A N D R W 8 L .

-END OF MESSAGE-

< U N A B L E

wirco>

Figure A-14

Figure A-15

E X I T R U N W A Y N E X T

I N T E R S E C T I O N . M O N I T O R

G R O U N D 1 2 1 . 9 W H E N

C L E A R O F R U N W A Y .

- E N D O F M E S S A G E -

< U N A B L E

wirco>

Figure A-16

Figure A-17

T A X I T O R A M P V I A

N E / S W T A X I W A Y .

- E N D O F M E S S A G E -

< U N A B L E

wirco>

Figure A-18

A.2 ILS APPROACH WITH WEATHER DEVIATION

Table A-2 and Figures A-19 through A-29 illustrate the sequence of events and page formats for those portions of the weather deviation scenarios that differ from the normal ILS scenarios.

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Table A-2. Weather Deviation

SCENARIO TIME (SECONDS)	COMMUNICATION EVENT
200.4	VECTOR TO DOWNWIND
214.0	REQUEST FOR DIFFERENT HEADING
231.0	VECTOR FOR NEW HEADING
371.0	ADVISING CLEAR OF WEATHER
384.0	VECTOR TO RESUME ON COURSE

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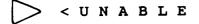
Figure A-19

T U R N R I G H T H E A D I N G

2 7 0 , D E S C E N D D M D M S L .

M A I N T A I N T A D R A T L A D P R C A D A C H

0 N I 2 7 . 2 5 M H E S S A G E -



WILCO>

Figure A-20

U N A B L E T O C O M P L Y

V N S A F E W X C O N D X - S T R O N G

R A D A R E C H O E S N E A R B Y

V U N S A F E W X C O N D X - S E V E R E

V C U N S A F E W X C O N D X - S E V E R E

V C U N S A F E W X C O N D X - S E V E R E

V C U N G T A V A I L A B L E

V C U N S I S T E N T - V E R I F Y

Figure A-21

REQUEST FOR CLEARANCE

Figure A-22

< S P E E D R E Q U E S T R E T U R N >

REQUEST FOR NEW HEADING < REQUEST TO FLY HEADING XXX 2 3 > < R E Q U E S T T E M P H E A D I N G 3 0 0 4 5 6 -WILL ADVISE-7 8 9 0 BKSP CLR E N T

Figure A-23

Figure A-24

T U R N R I G H T H E A D I N G

3 O O , D E S C E N D M D M S L .

M A I N T O R I A T L A P P R O A C H

O N I 2 7 . 2 5 M H E S S A G E -

< U N A B L E

WILCO>



Figure A-26

REQUEST FOR CLEARANCE

Figure A-27

Figure A-28

ATC UPLINK NO. 1

T U R N L E F T H E A D I N G 2 4 0

D E S C E N D A N D M A I N T A I N

5 0 0 0 M S L .

-END OF MESSAGE-

< U N A B L E

wirco>

Figure A-29

A.3 ILS MISSED APPROACH WITH REROUTE

Table A-3 and Figures A-30 through A-36 illustrate the sequence of events and page formats for those portions of the missed approach scenarios that differ from the normal ILS scenarios.

Table A-3. ILS Missed Approach With Reroute

SCENARIO TIME (SECONDS)	COMMUNICATION EVENT
870.4	ATC ADVISES PILOT REPORTED WIND SHEAR
882.0	ADVISES MISSED APPROACH AND REQUESTS HOLDING
928.0	ROUTE CLEARANCE TO HOLDING FIX

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MODE-S DATA LINK MENU

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Figure A-30

ATC UPLINK NO. 1

X X X X Z , D C - 9 R E P O R T S

A B R U P T W I N D S H E A R A T

1 5 0 0 M S L , O N F I N A L

R W 8 L , M A X T H R U S T

R E Q U I R E D .

-END OF MESSAGE-



Figure A-31

MODE-S DATA LINK MENU

Figure A-32

REQUEST FOR CLEARANCE

Figure A-33

MISSED APPROACH INTENTIONS < RETURN FOR ANOTHER APPR 1 2 3 < ENTER HOLDING</pre> FOR <u>15</u> MINUTES 4 5 6 7 8 9 0 BKSP CLR ENT

Figure A-34

MODE-S DATA LINK MENU

Figure A-35

ATC UPLINK NO. 1

 C
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Figure A-36

APPENDIX B DETAILED MISSION SCENARIOS

APPENDIX B

This appendix presents the detailed crew procedures and tasks representing the scenarios which were analyzed in this study. Time in seconds is referenced to the beginning of the scenario, as in Appendix A. Both pilot and copilot tasking is presented, first for the conventional flight deck and then for the advanced flight deck. The VHF voice tasking is presented first, followed by the data link tasking for each crew member.

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B.1 NORMAL ILS APPROACH—CONVENTIONAL FLIGHT DECK Flying Pilot

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MISSION SCENARIO REPORT

MISSION SCENARIO REPORT

MISSION - CURRENT NAS

ILS AP-BASE LN.

CONFIGURATION - 737 CONVNT FLT DCK

CREWMEMBER - PILOT

HOY10 1986

TIME INTER SINCE MISS BEGINNING	VAL (SECS) ION START END	TOTAL ACTIVITY Time	FLIGHT PHASE EVENT/PRO TASK	CEDURE
0.00			16BL SASELINE	FFD ILS APP
0.00			,	CROSS LOGEN INTERSECTION AT 250 KCAS AND 14000 FEET.ATL CENTR MAS PREVIOUSLY INSTRUCTED MASA \$18 TO CONTACT ATL APPR AT LOGEN.YHF-2R HAS AL-READY BEEN TUMED TO CORRECT FREQ-128.9.
0.00			180000	CONTACT ATL APPROACH ON 126.0
9.40	13.40	4.00	1P16Y	YDO MASA 515,ATL APPR, ROGER.
0.00			140003	ALTITUDE CHANGE PROC
0.00	10.00	10.00	4A	29 ACT FLT CONTROL TO CHANGE ALT
0.00	10.00	10.00	\$L	02 MON VERTICAL SPEED INDIC
0.00	0.77	0.77	\$H	02 MON CORR BARG ALT
0.00	10,00	10.00	\$R .	10 MON PITCH ATTITUDE INDIC ON FDI
0.00	2.82	2.82	41	03 ACTUATE BOTH THROTTLES
0.00	2.37	2.37	3F	01 MON MACH NO INDIC
10.00				FLIGHT INSTRUMENT SCAN - F
10.00	130.00	120.00	\$R	67 MON PITCH ATTITUDE INDIC ON FDI
10.00	130.00	120.00	3 L	03 MON YERTICAL SPEED INDIC
10.00	130.00	120.00	3A	11 MONITOR AIRSPEED INDIC
10.00	130.00	120.00	38	15 MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON CI
15.00			160013	SET NAV-1 TO RUNWAY BL ILS -109.3
31.50	34.00	2.50	1 P	12 MONITOR CALL-OUT
34.00	36.25	2.25	6 G	04 MON VOR POINTER NO.1 ON VOR/RMI 1 INDIC
15.00			00EY30	PILOT EXT VIS SCAN
15.00	65.00	50.00	t A	12 PILOT EXTERNAL VISION SCAN
38.00			160030	BET ADF-1 TO CATTA -875KC
45.73	47.23	1.50	1P	02 MONITOR CALL-OUT
40.00			180040	BET ADF-2 TO FLANC -344
\$4.00	55.50	1.50	1 P	02 MONITOR CALL-OUT
\$8.00				BET DECISION HEIGTH DM RADIO ALTIMETER
84.00				ENGINE INSTRUMENT BCAN

ORIGINAL PAGE IS

SINCE MISS BEGINNING	ION START END	ACTIVITY TIME	OF POOR QUALITY	EVENT/PR TASK	
65.00				164401	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FFM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS EHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT SOOD FT.
65.00	67.73	2.73		48	07 MAKE MINOR THRUST ADJUSTMENT
65.00	70.00	\$.00		4.4	64 MANUALLY CONTROL A/C
70.00				180005	DESCENT AND APPROACH CHECKLIST - 1
70.00	72.00	2.00		1916	GOO43 CALL OUT-[DESCENT AND APPROACH CHECK- LIST]
85.00	88.00	1.00		12	10 MONITOR CALL-OUT
87.00	87.80	0.80		19	07 MONITOR REPORT
90.00	91.80	1.80		12	13 MONITOR CALL-OUT
98.00	98.40	0.40		1P	16 MONITOR REPORT
70.00				00EV33	PILOT EXT VIS SCAN
70.00	170.00	100.00		BA.	13 PILOT EXTERNAL VISION SCAN
100.00				160008	DESCENT AND APPROACH CHECKLIST - 2
102.00	102.90	0.90		17,	11 MONITOR CALL-OUT
103.00	108.54	3.54		7M	03 SET ENG NO.1 START SW TO FLT
106.54	108.28	1.74		7₩	06 SET ENG NO.2 START SW TO FLT
108.50	109.00	0.50		171	60049 CALL OUT [FLIGHT]
111.00	112.10	1.10		17	12 MONITOR CALL-OUT
114.20	114.50	0.30		17	16 MONITOR REPORT
116.50	117.90	1.40		18	12 MONITOR CALL-OUT
123.40	124.70	1.30		19	69 MONITOR REPORT
128.00				160007	DESCENT AND APPROACH CHECKLIST - 3
128.00	129.50	1.50		17	02 MONITOR CALL-OUT
146.00	147.90	1.90		1P	14 MONITOR CALL-OUT
148.00	150.57	2.57		3A	07 MON V-REF BUG Setting
148.00	150.57	2.57		3A	OS SET V-REF BUR
151.00	154.00	3.00		3A	13 CAPT CHECK F.O. < 8 V-REF BUG SETTING
154:00	155.60	1.60		1P	OS MONITOR REPORT
157.60	158.90	1.30		12	02 MONITOR CALL-OUT
130.00				090019	FLIGHT INSTRUMENT SCAN - D
130.00	190.00	60.00		3R	SS MON PITCH ATTITUDE INDIC ON FDI
130.00	190.00	60.00		\$L	02 MON VERTICAL SPEED INDIC
130.00	190.00	80.00		3.4	10 MONITOR AIRSPEED
130.00	180.00	60.00		35	15 MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON C1
188.00				030007	ENGINE INSTRUMENT SCAN
150.00				00EY05	C/P EXT YIS SCAN
195.00				160048	MON ADF/RMI-2
195.00				10001	HANDOFF TO ATL FINAL APPROACH CONTROLLER
195.00	207.00	12.00		191	SXX81 N \$15,TURN RT HDG270 DESCND AND MAINTAIN 8000 FT,CONTACT ATL APPR ON 127.25.
200.00				140007	HEADING CHANGE PROC.

SINCE MISS BEGINNING	ION START	ACTIVITY Time	EVENT/P TAS	ROCEDURE K
200.00	210.00	10.00	15	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
200.00	210.00	10.00	4.4	28 ACT FLT CONTROL TO CHANGE HDQ
200.00	210.00	10.00	\$1.	02 MON VERTICAL SPEED INDIC
200.00	204.92	4.92	33	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
205.00	215.00	10.00	38	SS MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
200.00			16BL02	BEGIN TURN TO DOWN- WIND LEG
210.00			16BL03	DESCEND THRU 11000.
215.00			184401	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS EMOULD PERMIT DECEL TO 210 FOR CROSSING SAHRR AT 5000 FT.
215.00	217.73	2.73	48	07 MAKE MINOR THRUST ADJUSTMENT
215.00	220.00	5.00	4A	64 MANUALLY CONTROL A/C
219.00			160092	TUNE ATL APPROACH ON 127.25
226.00			160093	CONTACT ATL APPROACH ON 127.25
231.90	235.90	4.00	191	SYYSO MASA \$15,ATL APPR, ROGER.
220.00			090017	FLIGHT INSTRUMENT SCAN - C
220.00	250.00	30.00	38	SO MON PITCH ATTITUDE INDIC ON FD1
220.00	250.00	30.00	31.	02 MON VERTICAL SPEED INDIC
220.00	250.00	30.00	SA	10 MONITOR AIRSPEED INDIC
220.00	250.00	30.00	***	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
240.00			00EA08	C/P EXT VIS SCAN
250.00			090039	FLIGHT INSTRUMENT SCAN - F
250.00	170.00	120.00	38	57 MON PITCH ATTITUDE INDIC ON FDI
250.00	370.00	120.00	31.	OS MON VERTICAL SPEED
250.00	370.00	120.00	34	11 MONITOR AIRSPEED
250.00	370.00	120.00	38	15 MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON C!
288.00			030007	ENGINE INSTRUMENT SCAN
295.00			00EA00	C/P EXT VIS SCAN
330.00			1 8AA01	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 RCAS USING PITCH CWS MODE OF A.P. PILOT MAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT 8000 FT.
330.00	332.73	2.73	49	07 MAKE MINOR THRUST ADJUSTMENT
330.00	335.00	\$.00	4.4	64 MANUALLY CONTROL A/C

SINCE MISS		ACTIVITY Time	EVENT/PROCEDURE Task
BEG MN MG	END	(126	00EY04 C/P EXT YIS SCAN
363.00			030007 ENGINE INSTRUMENT SCAN
370.00			16BL04 DESCEND THRU 8600.
370.00			160094 ALTITUDE STEP DOWN From atl approach
370.00	375.00	5.00	1P16XX94 MASA \$15.DESCEND AND MAINTAIN \$000 FT.
370.00			090039 FLIGHT INSTRUMENT SCAM - F
\$70.00	490.00	120.00	3R S7 MON PITCH ATTITUDE INDIC OM FDI
370.00	490.00	120.00	3L 03 MON VERTICAL SPEED INDIC
370.00	490.00	120.00	3A 11 MONITOR AIRSPEED INDIC
370.00	490.00	120.00	3\$ 15 MONITOR A/C HEADING RELATIVE TO BELECTED HEADING ON CI
385.00			ODEVOS C/P EXT VIS SCAN
430.00			030007 ENGINE INSTRUMENT Scan
440.00			ODEVOS C/P EXT VIS SCAN
450.00			160002 TUNE ATIS -119.88
458.00	482.00	24.00	1A 15 MON VHF-1 COMM AUDIO
450.00	481.42	3.42	1P180001 MON RADIO COMM - [IMFORMATION LIMA OME SEVEN ZERO FIVE OBSERVATION- TWO
481.42	485.11	4.50	1P10002 FIVE MUNDRED SCAT- TERED CEILING FOUR THOUSAND BROKEN. VISIBLLITY ONE SIX.
485.98	470.54	4.56	1P16GOO3 TEMPERATURE FIVE Mimer. Wind ome Zero degrees at ten Gusting to ome seven
470.54	475.10	4.56	1P180004 . ALTIMETER TWO - MIMER EIGHT FOUR. SIMULTANEGUS PARAL- LEL APPROACHES IN
475.10	478.68	4.55	1P18G005 OPERATION ON RUNWAYS EIGHT LEFT AND MINER RIGHT. ADVISE COM- TROLLER ON INITIAL
479.88	481.94	2.20	1P160006 CONTACT YOU HAVE IN- FORMATION LIMA. 3
460.00			160048 MON ADF/RMI-2
450.00			18BL05 CROSS FT NDB
465.00			GOEVOS C/P EXT VIS SCAN
470.00			18AAO1 ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT SOOO FT.
470.00	472.73	2.73	4B 07 MAKE MINOR THRUST ADJUSTMENT
470.00	475.00	\$.00	4A 84 MANUALLY CONTROL A/C
480.00			160003 SET ALTIMETER BARO SETTIME TO 29.84
480.00	483.50	3.50	1P 13 MONITOR CALL-OUT
484.00			140032 ALTIMETER BARO SET PROC.
484.00	416.65	2.65	3H 04 MONITOR ALTIMETER Baro Setting Indic
484.00	488.65	2.65	SH OS SET ALTIMETER BARD Setting Control

SINCE MISS BEGINNING	ION START	ACTIVITY Time	EVENT/PR Task	
490.00			080017	FLIGHT INSTRUMENT SCAN - C
490.00	520.00	30.00	ar.	56 MON PITCH ATTITUDE INDIC ON FDI
490.00	520.00	30.00	31.	02 MON VERTICAL SPEED INDIC
490.00	520.00	30.00	3A	10 MONITOR AIRSPEED INDIC
490.00	520.00	30.00	38	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON C!
513.00			0\$0007	ENGINE INSTRUMENT SCAN
519.00			180041	MON YOR/RMI-1
\$19.00	521.00	2.00	66	04 MON VOR POINTER NO.1 ON VOR/RMI 1 INDIC
519.00	\$21.00	2.00	58	OS MON VOR POINTER NO.2 ON VOR/RMI 1 INDIC
520.00			180095	VECTOR FOR BASE LEG From ATL APPROACH
\$20.00	525.00	5.00	1P16	XX95 MASA \$15,TURN LEFT MEADING 180.
523.00			140007	HEADING CHANGE PROC.
\$23.00	533.00	10.00	315	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
523.00	\$33.00	10.00	44	28 ACT FLT CONTROL TO CHANGE HDG
523.00	533.00	10.00	\$L	02 MON VERTICAL SPEED INDIC
\$23.00	527.02	4.92	35	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
528.00	538.00	10.00	3R	SS MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FD!
523.00			168106	BEGIN TURN TO BASE
			140007	HEADING CHANGE PROC.
533.00 533.00	\$43.00	10.00	\$\$	of MONITOR A/C HEADING RELATIVE TO SELECTED
533.00	543.00	10.00	44	HDQ ON C! 28 ACT FLT CONTROL TO
533.00	543.00	10.00	\$ L	CHANGE HDG OZ MON VERTICAL SPEED
				INDIC
533.00	537.92	4.92	38	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
538.00	548.00	10.00	38	SS MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
\$40.00			140023	REPORT 1000 FT TO LEVEL OFF
542.00	543.70	1.70	1P	11 MONITOR CALL-OUT
543.00			140007	HEADING CHANGE PROC.
543.00	553.00	10.00	38	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON C1
\$43.00	\$53.00	10.00	44	28 ACT FLT CONTROL TO CHANGE HDG
543.00	\$53.00	10.00	\$L	02 MON VERTICAL SPEED INDIC
543.00	547.92	4.92	##	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR COMT

SINCE MISS	ION START	ACTIVITY .	EVENT/PROC TASK	EDURE
848.00	\$58.00	10.00	3R	SQ MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
550.00			00E403 C	P EXT VIS SCAN
\$55.00				LIGHT INSTRUMENT CAN - A
\$55.00	565.00	10.90	3R	10 MON PITCH ATTITUDE INDIC ON FD!
555.00	\$65.00	10.00	3 L	02 MON VERTICAL SPEED INDIC
\$55.00	565.00	10.00	3A	10 MONITOR AIRSPEED INDIC
\$55.00	\$65.00	10.00	35	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
\$85.00			160041 N	ION VOR/RMI-1
585.00	567.00	2.00	69	04 MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
\$65.00	567.00	2.00	69	05 MON YOR POINTER NO.2 ON YOR/RMI 1 INDIC
589.00			160042 h	NON ADF/RMI-1
569.00	\$71.00	2.00	60	28 MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC
569.00	571.00	2.00	60	29 MON ADF POINTER NO.2 ON ADF/RMI 1 INDIC
\$70.00				VECTOR TO INTERCEPT AND FINAL APPROACH CLEARANCE FROM ATL APPROACH CONTROL
\$70.00	\$80.00	10.00	1916X	X96 MASA 515,12 MILES FROM OM,TURN LT HDG 110.MAINTAIN 5000 FT UNTIL CROSSING BAHRR
580.00	587.00	7.00	19162	ZOG CLEARED FOR ILS RUN- WAY 8 LEFT APPROACH. CONTACT TOWER ON 119.5 AT BAHRR.
575.00			140007	HEADING CHANGE PROC.
575.00	585.00	10.00	28	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG OM CI
\$75.00	585.00	10.00	4A	28 ACT FLT CONTROL TO CHANGE HDG
\$75.00	585.00	10.00	*L	02 MON VERTICAL SPEED INDIC
575.00	879.92	4.92	18	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
580.00	590.00	10.00	38	58 MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FD1
\$75.00				TURM TO INTERCEPT FINAL APPR. COURSE
585.00			140007	HEADING CHANGE PROC.
585.00	\$85.00	10.00	35	01 MONITOR A/C MEADING RELATIVE TO SELECTED HDQ ON CI
585.00	595.00	10.00	4A	28 ACT FLT CONTROL TO CHANGE HDG
585.00	595.00	10.00	\$L	02 MON VERTICAL SPEED
\$85.00	500.92	4.92	15	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
590.00	600.00	10.00	38	SS MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
597.00			180034	TUME ATLANTA TOWER -118.5

SINCE MISS BEGINNING	ION START	ACTIVITY Time	EVENT/PR Task	
600.00			180079	MON INSTRUMENTS ON FINAL APP - P
600.00	610.00	10.00	\$R	62 MONITOR LOCALIZER INDICATOR ON FDI
600.00	810.00	10.00	38	04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
600.00	605.00	\$.00	3R	68 MON GLIDE SLOPE ATT INDIC ON FDI
800.00	610.00	10.00	\$A	10 MONITOR AIRSPEED INDIC
600.00	810.00	10.00	3H	06 MON ALTIMETER
800.00	610.00	10.00	3L	02 MON VERTICAL SPEED INDIC
607.00			160047	MON INSTRUMENTS ON FINAL APP
810.00			19AA02	SELECT ALT HOLD AMD AUTO APP FD MODES TO CAPTURE LOCALIZER PRIOR TO BAHRR, LEVEL AT 5000 FT
610.00	612.01	2.01	\$R	46 SET FD MODE SEL TO AUTO APP
613.00	614.21	1.21	\$ V	OS MON YOR LOC ANNUM LT AMBER
620.00	622.92	2.92	\$R	41 SET FD PITCH MODE SEL TO ALT HOLD
621.00	622.21	1.21	3 V	03 MON ALT HOLD ANNUN
658.00	659.21	1.21	\$V	04 MOM ALT HOLD ANNUM LT OFF
610.00			140003	ALTITUDE CHANGE PROC
610.00	620.00	10.00	4A	28 ACT FLT CONTROL TO CHANGE ALT
610.00	620.00	10.00	\$ L	02 MON VERTICAL SPEED
610.00	610.77	0.77	\$H	62 MON CORR BARO ALT INDIC
610.00	620.00	10.00	3 R	10 MON PITCH ATTITUDE INDIC ON FDI
610.00	612.82	2.82	48	OS ACTUATE BOTH THROTTLES
610.00	012.37	2.37	3F	01 MON MACH NO INDIC
810.00			1481.08	LEVEL OFF AT SOOD FT BEGIN DECEL FROM 250 TO 210 KGAS
817.00			160047	MON INSTRUMENTS ON FINAL APP
620.00			16AA03	ADJUST THRUST TO DECEL TO 210 KCAS BEFORE BAHRR
620.00	622.50	2.50	48	OS SET THRUST LEVERS TO
623.00			160037	CAPTURE ILS LOC BEGIN TURN TO HDG 000
625.60	628.90	1.30	17	02 MONITOR CALL-OUT
623.00	633.00	10.00	\$R	16 MONTION INDICATION OF DEVIATION FROM LOCALIZER ON FDI
823.00	633.00	10.00	38	04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON C:
623.00	833.00	10.00	4.4	28 ACT FLT CONTROL TO CHANGE NDG
629.53	832.40	2.87	11	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
829.53	831.03	1.80	1910	OOSS CALL OUT-II HAVE MAY 2 DATA3

SINCE MISSIO BEGINNING	N START	ACTIVITY Time	EVENT/PROCEDURE Task	
627.00	628.21	1.21	3V 08 MON LOC AMMUN LT GREEN AND GLD SLP AMSER	
633.00	643.00	10.00	3R 18 MONTIOR INDICATION OF DEVIATION FROM LOCALIZER ON FDI	
633.00	843.00	10.00	38 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI	
633.00	643.00	10.00	4A 28 ACT FLT CONTROL TO Change HDG	
827.00			160947 MON INSTRUMENTS ON FINAL APP	
637.00			160047 MON IMSTRUMENTS ON FINAL APP	
843.00			180048 ANNUNCIATOR RECALL	
645.00			180073 CONTROL A/C OM FINAL Approach - C (8)	
645.00	650.00	\$.00	4A 30 ACT FLT CONT TO ALIGNAZE WITH ATT INDICATORS	
645.00			160079 MON INSTRUMENTS ON FINAL APP - P	
645.00	655.00	10.00	3R 92 MONITOR LOCALIZER INDICATOR ON FDI	
645.00	655.00	10.00	38 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI	
645.00	650.00	5.00	3R 63 MON GLIDE SLOPE ATT INDIC ON FDI	
845.00	655.00	10.00	SA 10 MONITOR AIRSPEED INDIC	
845.00	855.00	10.00		
645.00	655.00	10.00	SL 02 MON VERTICAL SPEED INDIC	
647.00			160047 MON INSTRUMENTS ON FINAL APP	
650.00			180073 CONTROL A/C ON FINAL APPROACH - C (5)	
650.00	655.00	\$.00	4A 30 ACT FLT CONT TO ALIGNA/C WITH ATT INDICATORS	
855.00			160041 MON YOR/RM1-1	
655.00	657.00	2.00	ON YOR/REL 1 INDIC	
655.00	657.00	2.00	ON YOR/REI I INDIC	
657.00			160042 MON ADF/RM1-1	
657.00	659.00	2.00	OR ADP/RHI 1 INDIC	
657.00	859.00	2.00	ON ADP/RMI 1 INDIC	
657.00			180048 MON ADF/RMI-2	
660.00			188109 REACH 210 KCAS 180064 ACQUIRE GLIDESLOPE	
860.00			AS AS MAN INITIAL MANENETY	
682.00	664.58	2.50	OF GLIDE SLOPE COMMAND SAN ON FDI	
662.60	663.60	1.00		
684.58	665.79	1.21	37 09 MON QLIDE SLOPE Annum Ly Green	
864.00			160061 CONTACT TOWER FOR FINAL LANDING CLEAR- ANCE	
674.40	881.40	7.00	18 19 MON VHF-2 COMM AUDIO	
874.40	878.40	4.00	1P180040 MON RADIO COMM - (MASA 515, MO. 3 FOR SL.DC-9 3 MI AMEAD.WIND 110	
878.40	681.40	3.00	1P180041 AT MINE.CLEARED TO LAND RW SL.	

SINCE MISS	ION START	ACTIVITY	- OOK QUALITY	EVENT/P	ROCEDURE
BEGINNING	END	TIME		TAS	
664.00				16BL10	CROSS BAHRR
870.00				160072	CONTROL AIRCRAFT ON FINAL APP - B(240)
670.00	910.00	240.00		44	30 ACT FLT CONT TO ALIGNA/C WITH ATT INDICATORS
684.00				160011	SET FLAPS TO FLAPS 1
684.00	684.70	0.70		171	80088 CALL OUT -EFLAPS 13
689.00	589.70	0.70		17	10 MONITOR CALL-OUT
891.00	601.44	0.44		7 F	30 MON ENG NO 2 EPR IND
691.00	891.44	0.44		7.5	25 MON ENG NO 1 EPR IND
670.00				160080	MON INSTRUMENTS ON FINAL APP - P
670.00	700.00	30.00		38	62 MONITOR LOCALIZER INDICATOR ON FD1
670.00	700.00	30.00		38	17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
670.00	700.00	30.00		3R	63 MON GLIDE SLOPE ATT INDIC ON FDI
670.00	700.00	30.00		3.4	10 MONITOR AIRSPEED INDIC
670.00	700.00	30.00		3 H	06 MON ALTIMETER
670.00	700.00	30.00		31	02 MON VERTICAL SPEED INDIC
685.00				168L11	REACH 190 KCAS
694.00				160017	SET FLAPS TO FLAPS S
694.00	684.70	0.70		191	60061 CALL OUT -[FLAPS 8]
694.00				180018	FLAP SET PROCEDURE
700.03	700.73	0.70		17	10 MONITOR CALL-OUT
701.00	701.44	0.44		77	25 MON ENG NO 1 EPR IND
701.44	701.88	0.44		7 F	30 MON ENG NO 2 EPR IND
699.00				030007	ENGINE INSTRUMENT SCAN
700.00				160060	MON INSTRUMENTS ON FINAL APP - P
700.00	730.00	30.00		3.R	62 MONITOR LOCALIZER INDICATOR ON FDI
700.00	730.00	30.00		**	17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
700.00	730.00	30.00		38	63 MON GLIDE SLOPE ATT INDIC ON FDI
700.00	730.00	30.00		3A	10 MONITOR AIRSPEED INDIC
700.00	730.00	30.00		311	OS MON ALTIMETER
700.00	730.00	30.00	•	\$L	02 MON VERTICAL SPEED INDIC
708.00				168L12	REACH 170 KCAS
710.00				180047	MON INSTRUMENTS ON FINAL APP
720.00				160047	MON INSTRUMENTS ON FINAL APP
730.00				160047	MON INSTRUMENTS ON FINAL APP
730.00		_		00EV21	PILOT EXT VIS SCAN
730.00	735.00	8.00		BA	10 PILOT EXTERNAL VISION SCAN
740.00				160069	SET SPEED BRAKES
740.00	743.28	3.26		4F	02 SET SPEED BRAKE LEVER TO ARM
740.00	740.73	0.73		4F	07 MONITOR SPEED BRAKE LEVER ARMED LY GREEN
			· ·		-

SINCE MISSION BEGINNING	N START END	ACTIVITY TIME	EVENT/PR TASK	
744.00	•		180048	MON ADF/RM1-2
745.00			100000	MON INSTRUMENTS ON FINAL APP - P
745.00	775.00	30.00	38	62 MONITOR LOCALIZER INDICATOR ON FD1
745.00	77\$.00	30.00	35	17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
745.00	775.00	30.00	3R	63 MON GLIDE SLOPE ATT INDIC ON FDI
745.00	775.00	30.00	34	10 MONITOR AIRSPEED INDIC
745.00	775.00	30.00	311	OS MON ALTIMETER
745.00	775.00	30.00	3 L	02 MON VERTICAL SPEED INDIC
745.00			168L13	CROSS REIFF
748.00			160070	SET AUTO BRAKES
755.00			00EV01	C/P EXT VIS SCAN
765.00			160047	MON INSTRUMENTS ON FINAL APP
775.00			160047	MON INSTRUMENTS ON FINAL APP
775.00			150080	MON INSTRUMENTS ON Final App - P
775.00	805.00	30.00	38	52 MONITOR LOCALIZER INDICATOR ON FD!
775.00	805.00	30.00	35	17 MON A/C MEADING RELATIVE TO SELECTED COURSE ON CI
775.00	805.00	30.00	38	63 MON GLIDE SLOPE ATT INDIC ON FD1
775.00	8 05.00	30.00	3A	10 MONITOR AIRSPEED INDIC
775.00	805.00	30.00	3 H	06 MON ALTIMETER
775.00	805.00	30.00	3 L	02 MON VERTICAL SPEED INDIC
800.00			180058	REPORT RUNWAY IN SIGHT
802.00	103.00	1.00	12	10 MONITOR CALL-OUT
805.00			00EV21	PILOT EXT VIS SCAN
805.00	810.00	\$.00	8A	10 PILOT EXTERNAL VISION SCAN
808.00			160018	FLAP SET PROCEDURE
814.03	814.73	0.70	1 P	10 MONITOR CALL-OUT
815.00	815.44	0.44	7 F	25 MON ENG NO 1 EPR IND
815.44	815.88	0.44	7 F	30 MON ENG NO 2 EPR IND
0.00			160025	SET FLAPS TO FLAPS
808.00	808.70	0.70	171	60062 CALL OUT -[FLAPS 18]
012.00			160042	MON ADF/RMI-1
812.00	814.00	2.00	6 D	28 MON ADF POINTER NO.1 ON ADF/RMI 1 ENDIC
812.00	814.00	2.00	5 D	20 MON ADF POINTER NO.2 ON ADF/RM1 1 INDIC
815.00			160058	CROSS RWY OS OUTER Marker
815.00	815.72	0.72	34	11 MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL
817.00	818.80	1.80	171	60075 CALL OUT -[GEAR DOWN AND LANDING CHECK- LIST]
815.00	817.10	2.10	311	03 START ELAPSED TIME INDIC

SINCE MISS SEGINNING	ION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
815.00		•	18BL14 CROSS CATTA LOM-GEAR THEN EXTENDED AND 155 KCAS MAINTAINED
815.00			180049 MON RADIO ALTIMETER
820.00			160060 EXTEND LANDING GEAR
0 20.00			160080 MON INSTRUMENTS ON FINAL APP - P
820.00	850.00	30.00	3R 82 MONITOR LOCALIZER INDICATOR ON FDI
820.00	850.00	30.00	38 17 MOM A/C HEADING RELATIVE TO SELECTED COURSE ON CI
\$20.00	850.00	30.00	SR GS MON GLIDE SLOPE Att indic on fdi
820.00	850.00	30.00	3A 10 MONITOR AIRSPEED INDIC
820.00	850.00	30.00	SH OS MON ALTIMETER
820.00	850.00	30.00	SL O2 MON VERTICAL SPEED INDIC
845.00			180082 LANDING CHECKLIST
847.00	847.60	0.60	1P 10 MONITOR CALL-OUT
847.60	848.00	0.40	1P 14 MONITOR CALL-OUT
850.00	850.70	0.70	1P 16 MONITOR CALL-OUT
851.00	\$52.30	1.30	1P100079 CALL OUT -(ARMED - Green Light)
854.50	855.20	0.70	1P 10 MONITOR CALL-OUT
855.20	#54 .20	1.00	1P 10 MONITOR CALL-OUT
858.20	868.60	0.40	1P 14 MONITOR CALL-OUT
858.60	859.70	1.10	1P 12 MONITOR CALL-OUT
850.00			ODEV21 PILOT EXT VIS SCAN
850.00 855.00	865.00	8.00	BA 10 PILOT EXTERNAL VISION SCAN 180080 MON INSTRUMENTS ON Final APP - P
855.00	885.00	30.00	SR 62 MONITOR LOCALIZER INDICATOR ON FDI
855.00	885.00	30.00	38 17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
855.00	\$85.00	30.00	3R 63 MON GLIDE SLOPE att indic om foi
855.00	885.00	30.00	3A 10 MONITOR AIRSPEED INDIC
855.00	885.00	30.00	3H GS MON ALTIMETER
855.00	885.00	\$0.00	3L 02 MON VERTICAL SPEED INDIC
865.00			ODEVOZ C/P EXT VIS SCAN
877.00			160047 MON INSTRUMENTS ON FINAL APP
** 5.00			. GOEY21 PILOT EXT VIS SCAN
885.00	800.00	\$.00	8A 10 PILOT EXTERNAL Visiom Scan
888.00			030007 ENGINE INSTRUMENT SCAN
890.00			160080 MON INSTRUMENTS ON FINAL APP - P
890.00	920.00	30.00	3R 62 MONITOR LOCALIZER INDICATOR ON FDI
890.00	920.00	30.00	35 17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON C:
890.00	920.00	30.00	3R 83 MON GLIDE SLOPE ATT INDIC ON FD:
890.00	920.00	\$0.00	3A 10 MONITOR AIRSPEED IMPIC
890.00	920.00	30.00	3H OS MON ALTIMETER

SINCE MISSI BEGINNING	ON START END	ACTIVITY Time	EVENT/PF Task	
890.00	920.00	30.00	3L	02 MON VERTICAL SPEED
895.00			150049	MON RADIO ALTIMETER
900.00			90EV04	C/P EXT VIS SCAN
923.00			160065	DESCEND THRU -DECISION NEIGTH
925.58	926.38	0.80	19	11 MONITOR CALL-OUT
924.00			160068	CONTROL AIRCRAFT THRU TOUCHDOWN
924.00	150.00	28.00	8.4	OS CAPT VIEW THRU NO.1 WINDOW
924.00	950.00	26.00	44	SS MANUALLY CONT A/C
925.00			160064	CROSS RWY OF MIDDLE
#25.00	926.91	1.81	34	13 MONITOR MIDDLE MARKER ANNUN LT ON AND AUDIBLE SIGNAL
926.00			16BL15	CROSS MIDDLE MARKER
930.00			00EV02	C/P EXT VIS SCAN
830.00			090003	FLIGHT INSTRUMENT SCAN - A
930.00	340.00	10.00	\$R	10 MON PITCH ATTITUDE INDIC ON FDI
930.00	940.00	10.00	3 L	02 MON VERTICAL SPEED INDIC
930.00	140.00	10.00	3A	10 MONITOR AIRSPEED
930.00	940.00	10.00	35	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
940.00			160047	MON INSTRUMENTS ON FINAL AFF
941.00			188L16	CROSS RW THRESHOLD
850.00			00EY02	C/P EXT VIS SCAN
950.00			160068	TOUCHDOWN
950.00	952.50	2.50	48	OS SET THRUST LEVERS TO IDLE
950.00	1025.00	75.00	4A	31 MANUALLY CONTROL A/
952.50	973.50	21.00	40	01 SET THRUST REVERSER LEVERS TO ON
974.00	976.76	2.76	40	02 SET THRUST REVERSER LEVERS TO OFF
978.00	981.26	3.20	4F	01 SET SPD BRAKE LEVER TO DOWN
850.00	1025.00	75.00	46	04 ACTUATE NOSE GEAR STEERING USING RUDDER PEDALS
950.00	1025.00	7\$.00	· 8A	OI VIEW RUNWAY AHEAD
950.00			168L17	TOUCHDOWN
850.00			090003	FLIGHT INSTRUMENT SCAN - A
950.00	960.00	10.00	3R	10 MON PITCH ATTITUDE INDIC ON FDI
950.00	950.00	10.00	3 L	02 MON VERTICAL SPEED INDIC
950.00	960.00	10.00	3A	10 MONITOR AIRSPEED INDIC
850.00	960.00	10.00	38	01 MONITOR A/C MEADING RELATIVE TO SELECTED HDG ON CI
960.00			160047	MON INSTRUMENTS ON FINAL APP
870.00			00EY02	C/P EXT VIS SCAN
970.00			080003	FLIGHT INSTRUMENT SCAN - A

SINCE MIS BEGINNING	SION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
970.00	980.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
870.00	980.00	10.00	3L 02 MON VERTICAL SPEED Indic
870.00	**0.00	10.00	3A 10 MOMITOR AIRSPEED INDIC
970.00	980.00	10.00	38 01 MONITOR A/C HEADING RELATIVE TO SELECTED HDQ ON CI
984.00			100071 HANDOFF TO GROUND Control -121.0
984.00	990.00	8.00	18 18 MON VHF-2 COMM AUDIO
984.00	967.50	3.50	1P180087 MON RADIO COMM - (MASA 518,EXIT RUN- WAY MEXT INTERSEC- TION. CONTACT GROUND
887.50	990.00	2.50	1P180088 POINT NINER WHEN CLEAR OF RUNWAY, OVER]
1004.00	1007.50	3.50	18 18 MON YHF-2 COMM AUDIO
1004.00	1007.50	3.50	1P160091 MON RADIO COMM - (MASA 516, ATLANTA GROUND, TAXI TO RAMP VIA NORTHEAST=SOUTH-
1007.50	1008.50	1.00	1P160092 WEST TAXIWAY, OVER]
**0.00			000003 FLIGHT INSTRUMENT SCAN - A
800.00	1000.00	10.00	SR 10 MOM PITCH ATTITUDE Indic on FDI
880.00	1000.00	10.00	3L 02 MON VERTICAL SPEED INDIC
**0.00	1000.00	10.00	SA 10 MONITOR AIRSPEED INDIC
**0.00	1000.00	10.00	38 OI MONITOR A/C HEADING Relative to selected HDQ on CI
1010.00			ODEVOS C/P EXT VIS SCAN

HOV10 1986

MISSION SCENARIO REPORT

MISSION - MD-S DATA LINK

ILS AP-BASE LN.

CONFIGURATION - 737 CONVNY FLT DCK

CREWMEMBER - PILOT

TIME INTERVAL SINCE MISSION BEGINNING	(SECS) START END	TOTAL ACTIVITY TIME	FLIGHT PHASE EVENT/PROCEDURE TASK
0.00			10DL DATA LINK FFD ILS AP
0.00			18DLO1 CROSS LOGEN INTERSEC TION AT 250 KCAS AND 14000 FEET.ATL CENTR MAS PREYIOUSLY INSTR UCTED MASA 515 TO MONITOR ATL APPROACH ON 1200 AT LOGEN VMF-2R MAS BEEN SET.
0.00			16DL90 MONITOR ATL APPROACH ON 126.9/VMF-2R
0.00			140003 ALTITUDE CHANGE PROC
0.00	10.00	10.00	4A 29 ACT FLT CONTROL TO CHAMGE ALT
0.00	10.00	10.00	SL 92 MON VERTICAL SPEED INDIC
0.00	0.77	0.77	3H 92 MON CORR BARO ALT Indic
0.00	10.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
0.00	2.82	2.82	4B 03 ACTUATE BOTH Throttles
0.00	2.37	2.37	3F 01 MON MACH NO INDIC
10.00			090035 FLIGHT INSTRUMENT SCAN - F
10.00	130.00	120.00	SR 57 MON PITCH ATTITUDE INDIC ON FDI
10.00	130.00	120.00	3L 03 MON VERTICAL SPEED INDIC
10.00	130.00	120.00	BA 11 MONITOR AIRSPEED INDIC
10.00	130.00	120.00	38 15 MOMITOR A/C MEADING RELATIVE TO SELECTED MEADING ON CI
15.00			188013 SET MAY-1 TO RUMWAY BL ILS -109.3
31.50	34.00	2.50	1P 12 MONITOR CALL-OUT
34.00	36.25	2.25	SG 04 MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
15.00			GOEVSO PILOT EXT VIS SCAN
15.00	65.00	\$0.00	BA 12 PILOT EXTERNAL VISION SCAN
38.00			180039 SET ADF-1 TO CATTA -375KC
45.73	47.23	1.50	1P 02 MONITOR CALL-OUT
48.00			180040 SET ADF-2 TO FLANC -344
\$4.00	\$5.50	1.80	1P 62 MONITOR CALL-OUT
\$8.00			180038 SET DECISION HEIGTH ON RADIO ALTIMETER
64.00			030007 ENGINE INSTRUMENT SCAN
85.00			16AAO1 ADJUST THRUST AND PITCH TO MAINTAIN A 800 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHER AT SOOO FT.

SINCE MIS	SION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
85.00	67.73	2.73	48 07 MAKE MINOR THRUST Adjustment
65.00	70.00	8.00	4A 64 MANUALLY CONTROL A/C
70.00			180005 DESCENT AND APPROACH CHECKLIST - 1
70.00	72.00	2.00	1P160043 CALL OUT-IDESCENT AND APPROACH CHECK- LIST]
85.00	86.00	1.00	1P 10 MONITOR CALL-OUT
87.00	87.80	0.80	1P 07 MONITOR REPORT
90.00	91.80	1.80	1P 13 MONITOR CALL-OUT
98.00	98.40	0.40	1P 18 MONITOR REPORT
70.00			ODEYSS PILOT EXT VIS SCAN
70.00	170.00	100.00	SA 13 PILOT EXTERNAL Vision Scan
100.00			180008 DESCENT AND APPROACH CHECKLIST - 2
102.00	102.90	0.10	1P 11 MONITOR CALL-OUT
103.00	106.54	3.54	7M 03 SET ENG NO.1 START SW TO FLT
106.54	108.28	1.74	7M OG SET ENG NO.2 START SW TO FLT
108.50	109.00	0.50	1P180048 CALL OUT [FLIGHT]
111.00	112.10	1.10	1P 12 MONITOR CALL-OUT
114.20	114.50	0.30	1P 16 MONITOR REPORT
116.50	117.90	1.40	1P 12 MONITOR CALL-OUT
123.40	124.70	1.30	1P 00 MONITOR REPORT
126.00			160007 DESCENT AND APPROACH CHECKLIST - 3
128.00	120.50	1.50	1P 02 MONITOR CALL-OUT
146.00	147.90	1.90	1P 14 MONITOR CALL-OUT
148.00	150.57	2.57	3A 97 MON V-REF BUQ Setting
148.00	150.67	2.67	3A OS SET V-REF BUG
151.00	154.00	3.00	3A 18 CAPT CHECK F.O. < S V-REF BUG SETTING
154.00	155.60	1.60	1P OR MONITOR REPORT
157.80	158.90	1.30	1P 02 MONITOR CALL-OUT
130.00			090019 FLIGHT INSTRUMENT SCAN - D
130.00	190.00	00.00	3R 56 MON PITCH ATTITUDE INDIC ON FDI
130.00	190.00	60.00	3L 02 MON VERTICAL SPEED INDIC
130.00	100.00	80.00	3A 10 MONITOR AIRSPEED INDIC
130.00	190.00	60.00	35 16 MONITOR A/C HEADING Relative to selected Heading on Ci
165.00			030007 ENGINE INSTRUMENT SCAN
172.00			ODEYOS C/P EXT VIS SCAN
195.00			180048 MON ADF/RMI-2
195.00			18DL91 MANDOFF TO ATL FINAL Approach Controller Vector to Downeind
195.00	196.60	1.60	1D16XX01 MON INFORMATION MANAGEMENT ATENSON
198.60	198.60	2.00	1D16XX02 MON INFORMATION MANAGEMENT DISPLAY [Mode-8 Uplink Prog] AMBER
200.40	210.40	10.00	1D18AA91 MONITOR UPLINK CALL- OUT FROM COPILOT
200.00			140007 HEADING CHANGE PROC.

SINCE MISSION BEGINNING	N START END	ACTIVITY Time	EVENT/I		RE
200.00	210.00	10.00	18	01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON C!
200.00	210.00	10.00	4A	28	ACT FLT CONTROL TO CHANGE HDG
200.00	210.00	10.00	31.	02	MON VERTICAL SPEED
200.00	204.92	4.82	**	11	SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
205.00	215.00	10.00	38	68	MON A/C ATTITUDE RELATIVE TO ROLL COMMAND OM FDI
200.00			1681.02		N TURN TO DOWN- LEG
210.00			1681.03	DESC	END THRU 11000.
215.00			184401	PITC 900 250 CWS PILC THAT PERM FOR	ST THRUST AMD M TO MAINTAIN A FPM DESCENT AT KCAS USING PITCH MODE OF A.P. T HAS DETERMINED THIS SHOULD ITT DECEL TO 210 CROSSING BAHRR 000 FT.
215.00	217.73	2.78	48	07	MAKE MINOR THRUST ADJUSTMENT
215.00	220.00	5.00	44	64	MANUALLY CONTROL A/C
219.00			100002		ATL APPROACH 27.25
226.00			160193	MON I	TOR ATL APPROACH 27.25/VHF-2L
220.00			080017		HT INSTRUMENT
220.00	250.00	30.00	38	54	MON PITCH ATTITUDE
220.00	250.00	\$0.00	31.	02	MON VERTICAL SPEED
220.00	250.00	30.00	34	10	MONITOR AIRSPEED
220.00	250.00	30.00	18	01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
240.00			00EY08	C/P	EXT VIS SCAN
250.00			090039	FL IG	HT INSTRUMENT I – F
250.00	370.00	120.00	38	\$7	MON PITCH ATTITUDE INDIC ON FDI
250.00	370.00	120.00	9L	08	MON VERTICAL SPEED
250.00	370.00	120.00	34	11	MONITOR AIRSPEED INDIC
250.00	370.00	120.00	**	15	MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON CI
288.00			930907	ENG:	NE INSTRUMENT
295.00			00E408	C/P	EXT VIS SCAN
330.00			10001	PITO SOO 250 CWS PILO THAT PERI FOR	JET THRUST AND IN TO MAINTAIN A FPM DESCENT AT KCAS USING PITCH MODE OF A.P. THAS DETERMINED I THIS SHOULD LIT DECEL TO 210 CROSSING BAHRR 1000 FT.
330.00	332.73	2.73	41	07	MAKE MINOR THRUST ADJUSTMENT
330.00	335.00	5.00	44	44	MANUALLY CONTROL A/C
340.00			00EV04	C/P	EXT VIS SCAN

SINCE MISS BEGINNING	ION START END	ACTIVITY TIME	OOR QUALITY	EVENT/P		PRE
363.00				030007	ENG!	NE INSTRUMENT
170.00				168L04		END THRU 9600.
370.00 370.00	371.60	1.80		18DL94	ALTI SXX01	TUDE STEP DOWN MON INFORMATION
370.00	******	1.00		10.	•	MANAGEMENT ATENSON
371.60	373.80	2.00		101	exxo2	MON INFORMATION MANAGEMENT DISPLAY [MODE-8 UPLINK PROG] AMBER
375.40	\$79.40	4.00		101	84494	MONITOR UPLINK CALL- OUT FROM COPILOT
370.00				090039		HT INSTRUMENT
370.00	400.00	120.00		32	67	MON PITCH ATTITUDE
370.00	400.00	120.00		\$L	01	MON VERTICAL SPEED
370.00	490.00	120.00		3A	11	MONITOR AIRSPEED
370.00	490.00	120.00		38	15	MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON CI
385.00				00EA02	C/P	EXT VIS SCAN
430.00				030007	ENG!	NE INSTRUMENT
480.00				160L02	RECE TERM	IVE ATL ETIS
458.60	460.20	1.60		101	6XX01	MON INFORMATION MANAGEMENT ATENSON
480.20	462.20	2.00		101	6XX08	MON VISUAL ALERT DSP [MODE-S UPLINK PHDG] INDENTED BLUE
460.00				16BL05	CROS	S FT NOS
470.00				184401	PITC 900 260 CWS PILO THAT PERM FOR	ST THRUST AND M TO MAINTAIN A FPM DESCENT AT KCAS USING PITCH MODE OF A.P. T HAS DETERMINED THIS SHOULD IT DECEL TO 210 CROSSING BAHRR 000 FT.
470.00	472.73	2.73		48	07	MAKE MINOR THRUST ADJUSTMENT
470.00	475.00	5.00		44	64	MANUALLY CONTROL A/C
480.00				160003		ALTIMETER BARO ING TO 29.84
480.00 484.00	483.50	3.50		1P 140032		MONITOR CALL-OUT METER BARG SET
484.00	400.05	2.65		3H	PROC 04	MONITOR ALTIMETER BARO SETTING INDIC
484.00	486.65	2.65		311	01	SET ALTIMETER BARO SETTING CONTROL
490.00				090017	FL1G	HT INSTRUMENT
490.00	\$20.00	30.00		38	56	MON PITCH ATTITUDE
490.00	520.00	30.00		3L	02	MON VERTICAL SPEED
490.00	\$20.00	30.00		3A	10	MONITOR AIRSPEED
490.00	\$20.00	30.00		3.5	0 1	MONITOR A/C HEADING RELATIVE TO SELECTED HDQ ON CI
\$13.00				030007	ENG!	KE INSTRUMENT
519.00				160041	MON 1	/OR / RM I = 1
519.00	\$21.00	2.00		5 G	04	MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
\$19.00	\$21.00	2.00		5Q	06	MON YOR POINTER NO.2 ON YOR/RMI 1 INDIC
\$20.00				16DL95	VECTO	DR FOR BASE LEG

SINCE MISSI BEGINNING	ON START	ACTIVITY TIME	EVENT/PROCEDUR Task	·
\$20.00	\$21.60	1.60	1016XX01	MON INFORMATION MANAGEMENT ATENSON
521.60	523.60	2.00		MON INFORMATION MANAGEMENT DISPLAY (MODE-8 UPLINK PHDG] AMBER
825.40	\$28.40	\$.00	1016AA86	MONITOR UPLINK CALL- OUT FROM COPILOT
523.00			140007 HEAD I	NG CHANGE PROC.
623.00	\$33.00	10.00	38 01	MONITOR A/C NEADING RELATIVE TO SELECTED HDG ON CI
\$23.00	\$33.00	10.00	4A 26	ACT FLT CONTROL TO CHANGE HDG
\$23.00	533.00	10.00	3L 02	MON VERTICAL SPEED
523.00	\$27.92	4.02	38 11	SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
\$28.00	\$38.00	10.00	3R 60	MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
\$23.00			16BL06 BERIN	TURN TO BASE
533.00			140007 HEAD!	NG CHANGE PROC.
533.00	543.00	10.00	38 01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
\$33.00	\$43.00	10.00	4A 28	ACT FLY CONTROL TO CHANGE HDG
533.00	\$43.00	10.00	aL 02	MON VERTICAL SPEED
\$33.00	637.92	4.92	38 11	SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
\$38.00	548.00	10.00	3R 58	MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
540.00				RT 1000 FT TO . OFF
642.00	543.70	1.70	19 11	MONITOR CALL-OUT
\$43.00			140007 MEAD	ING CHANGE PROC.
843.00	\$53.00	10.00	18 01	MONITOR A/C HEADING RELATIVE TO BELECTED HDG ON CI
543.00	\$53.00	10.00	4A 28	ACT FLT CONTROL TO CHANGE HOG
\$43.00	553.00	10.00	3L 02	MON VERTICAL SPEED INDIC
543.00	\$47.02	4.92	38 11	SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
\$48.00	558.00	10.00	3R 58	MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
\$50.00			00EV03 C/P	EXT VIS SCAN
555.00			090003 FL!G Scan	HT (MSTRUMENT - Å
\$55.00	\$85.00	10.00	. 3R 10	MON PITCH ATTITUDE
555.00	\$85.00	10.00	3L 02	MON VERTICAL SPEED
555.00	565.00	10.00	3A 10	MONITOR AIRSPEED
555.00	\$65.00	10.00	38 01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
585.00			150041 MON	YOR/RM1-1
\$65.00	\$67.00	2.00	8G 04	MON YOR POINTER NO.1 OM YOR/RMI 1 INDIC

		I	JE POOK	QUALITY			
SINCE MISSIC BEGINNING		CTIVITY IME			EVENT/PI Tasi		RE
\$65.00	567.00	2.00			50	06	MON YOR POINTER NO.2 ON YOR/RMI 1 INDIC
589.00					160042	MON	ADF/RMI-1
569.00	871.00	2.00			80	28	MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC
600.00	671.00	2.00			10	29	MON ADF POINTER NO.2 ON ADF/RMI 1 INDIC
870.00					16DL96	VECT	OR TO FINAL APPR
\$70.00	671.60	1.60			1010	XXOI	MON INFORMATION MANAGEMENT ATEMSON
871.80	673.60	2.00			1010	XX02	MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PHDG] AMBER
\$75.40	584.40	.00			1916	PERA	MONITOR UPLINK CALL- OUT FROM COPILOT
\$84.40	581.40	7.00			1010	AA97	MON!TOR UPLINK CALL- OUT FROM COPILOT
675.00					140007	HEAD	ING CHANGE PROC.
875.00	\$85.00	10.00			38	01	MONITOR A/C MEADING RELATIVE TO SELECTED NDG ON CI
\$78.00	685.00	10.00			4A	28	ACT FLT COMTROL TO CHANGE HDG
\$75.00	\$85.00	10.00			3 L	02	MON VERTICAL SPEED INDIC
676.00	670.02	4.92			**	11	SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
\$80.00	\$90.00	10.00			a R	58	MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
\$75.00					168107	TURN FINA	TO INTERCEPT L APPR. COURSE
585.00					140007	HEAD	ING CHANGE PROC.
\$86.00	696.00	10.00			**	01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON C!
585.00	\$0\$.00	10.00			4A	28	ACT FLT CONTROL TO CHANGE HDQ
585.00	\$95.00	10.00			\$L	02	MON YERTICAL SPEED INDIC
888.00	689.92	4,92			3.5	11	SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
\$80.00	000.00	10.00			3R	**	MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
507.00					180034	TUNE	ATLANTA TOWER
600.00					180079	MON FINA	INSTRUMENTS ON L APP - P
600.00	\$10.00	10.00			3R	02	MONITOR LOCALIZER
600.00	610.00	10.00			38	04	MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
600.00	805.00	5.00			3R	68	MON GLIDE SLOPE ATT INDIC ON FDI
600.00	610.00	10.00			3.4	10	MONITOR AIRSPEED INDIC
600.00	610.00	10.00			\$H	96	MON ALTIMETER
600.00	\$10.00	10.00			ar.	02	MON YERTICAL SPEED
607.00					180047		INSTRUMENTS ON L APP

SINCE MISSIC BEGINNING	ON START END	ACTIVITY Time	EVENT/P	ROCEDURE K
810.00			16AA02	SELECT ALT HOLD AND AUTO APP FD MODES TO CAPTURE LOCALIZER PRIOR TO BAHRR, LEVEL AT 5000 FT
810.00	612.01	2.01	3R	45 SET FD MODE SEL TO AUTO APP
813.00	614.21	1.21	\$4	es MON YOR LOC ANNUN LT AMBER
820.00	622.92	2.12	a R	41 SET FD PITCH MODE SEL TO ALT HOLD
621.00	622.21	1.21	34	68 MON ALT HOLD ANNUN LT ON
658.00	659.21	1.21	34	64 MON ALT HOLD ANNUM LT OFF
610.00			140003	ALTITUDE CHANGE PROC
610.00	620.00	10.00	4A	29 ACT FLT CONTROL TO CHANGE ALT
610.00	820.00	10.00	8 L	02 MON VERTICAL SPEED INDIC
610.00	610.77	0.77	3 H	02 MON CORR BARO ALT
610.00	620.00	10.00	38	10 MON PITCH ATTITUDE INDIC ON FDI
610.00	\$12.82	2.82	48	GS ACTUATE BOTH THROTTLES
610.00	412.37	2.47	3F	OI MON MACH NO INDIC
610.00			16BL08	LEVEL OFF AT 5000 FT BEGIN DECEL FROM 250 TO 210 KCAS
617.00			160047	MON INSTRUMENTS ON FINAL APP
620.00			16AA03	ADJUST THRUST TO DECEL TO 210 KCAS BEFORE BAHRR
620.00	022.50	2.50	48	OB SET THRUST LEVERS TO
623.00			180037	CAPTURE ILS LOC BEGIN TURN TO NDG 080
625.60	828.90	1.30	18	92 MONITOR CALL-OUT
623.00	633.00	10.00	38	16 MONTION INDICATION OF DEVIATION FROM LOCALIZER ON FDI
623.00	633.00	10.00	35	04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
623.00	833.00	10.00	4A	28 ACT FLT CONTROL TO CHANGE HDG
629.53	832.40	2.47	11	11 SET COURSE DIGITS AMD POINTER ON CI USING COURSE CURSOR CONT
429.53	631.03	1.50	1P1	GOOGG CALL OUT-[1 HAVE MAY 2 DATA]
627.00	628.21	1.21	34	OS MON LOC ANNUN LT GREEN AND QLD SLP AMBER
633.00	643.00	10.00	an	18 MONTION INDICATION OF DEVIATION FROM LOCALIZER ON FD
633.00	643.00	10.00	35	04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
633.00	643.00	10.00	44	28 ACT FLT CONTROL TO CHANGE HDG
827.00			160047	MON INSTRUMENTS ON FINAL APP
637.00			160047	MON INSTRUMENTS ON FINAL APP
643.00			160045	ANNUNCIATOR RECALL
645.00			160073	CONTROL A/C ON FINAL APPROACH - C (5)

SINCE MISSIC	N START	ACTIVITY	OF POOR	QUALITY.	EVENT/PI	ROCEDU	RE
BEGINNING	END	TIME			TASI		
845.00	650.00	5.00			44	10	ACT FLT CONT TO ALIGNA/C WITH ATT INDICATORS
645.00					160079		INSTRUMENTS ON L APP - P
645.00	655.00	10.00			\$R	62	MONITOR LOCALIZER
645.00	855.00	10.00			38	04	MON A/C POS!TION RELATIVE TO SELECTED COURSE ON CI
645.00	650.00	8.00			38	68	MON QLIDE SLOPE ATT INDIC ON FDI
645.00	855.00	10.00			3A	10	MONITOR AIRSPEED
445.00	655.00	10.00			311	06	MON ALTIMETER
845.00	855.00	10.00			3L	02	MON VERTICAL SPEED
647.00					160047		INSTRUMENTS ON L APP
650.00					160073	CONT	ROL A/C ON FINAL OACH - C (8)
850.00	655.00	8.00			44	10	ACT FLT CONT TO ALIGNA/C WITH ATT INDICATORS
655.00					160041	MON	VOR/RMI-1
655.00	657.00	2.00			10	04	MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
655.00	657.00	2.00			50	08	MON YOR POINTER NO.2 ON YOR/RMI 1 INDIC
657.00					160042	MON	ADF/RMI-1
657.00	859.00	2.00			5 D	28	MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC
657.00	659.00	2.00			\$ D	20	MON ADF POINTER NO.2 ON ADF/RM! 1 INDIC
657.00					180048	MON	ADF/RMI-2
680.00					16BL09	REAC	H 210 KCAS
680.00					160054	ACQU	IRE GLIDESLOPE
662.00	864.58	2.58			3R	60	MON INITIAL MOVEMENT OF GLIDE SLOPE COMMAND BAR ON FDI
882.60	663.60	1.00			19	10	MONITOR CALL-OUT
864.58	065.79	1.21			34	00	MON GLIDE SLOPE ANNUN LT GREEN
864.00					160160		TOR ATL TOWER ON 5/YHF-2R
684.00					16BL10	CROS	* BAHRR
670.00					160161	LAND	ING CLEARANCE
670.00	671.60	1.60			191	6XX01	MON INFORMATION MANAGEMENT ATENSON
671.60	673.60	2.00			191	6 XX 02	MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PNDG] AMBER
875.40	685.40	10.00			101	8 AA40	MONITOR UPLINK CALL- OUT FROM COPILOT
670.00					180072		ROL AIRGRAFT ON LL APP - B(240)
670.00	910.00	240.00			44	30	ACT FLT CONT TO ALIGNA/C WITH ATT INDICATORS
884.00				•	160011	SET	FLAPS TO FLAPS 1
884.00	684.70	0.70			1P1	80058	CALL OUT -(FLAPS 1)
689.00	689.70	0.70			12	10	MONITOR CALL-OUT
691.00	891.44	0.44			7 F	30	MON ENG NO 2 EPR IND
691.00	681,44	0,44			7 F	28	MON ENG NO 1 EPR IND
870.00	*	- • • •			160080		INSTRUMENTS ON
						FI	IAL APP - P

SINCE MISSION BEGINNING	START END	ACTIVITY TIME	EVENT/PROCEDURE Task
870.00	700.00	30.00	3R 62 MONITOR LOCALIZER INDICATOR ON FDI
870.00	700.00	30.00	38 17 MON A/C HEADING Relative to selected Course on Ci
670.00	700.00	30.00	3R 63 MOM GLIDE SLOPE ATT INDIC ON FDI
670.00	700.00	\$0.00	3A 10 MONITOR AIRSPEED INDIC
870.00	700.00	30.00	SH QS MON ALTIMETER
870.00	700.00	30.00	3L 62 MON VERTICAL SPEED INDIC
685.00			18BL11 REACH 180 KCAS
694.00			160017 SET FLAPS TO FLAPS 5
894.00	694.70	0.70	1P160061 CALL OUT -[FLAPS 6]
694.00			180018 FLAP SET PROCEDURE
700.03	700.73	0.70	1P 10 MONITOR CALL-OUT
701.00	701.44	0.44	7F 25 MON ENG NO 1 EPR IND
701.44	701.88	0.44	7F 80 MON ENG NO 2 EPR IND
699.00			030007 ENGINE INSTRUMENT Scan
700.00			180080 MON INSTRUMENTS ON Final APP - P
700.00	730.00	30.00	3R 82 MONITOR LOCALIZER INDICATOR ON FDI
700.00	730.00	30.00	3\$ 17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
700.00	730.00	30.00	3R 63 MON GLIDE SLOPE ATT INDIC ON FDI
700.00	730.00	30.00	3A 10 MONITOR AIRSPEED INDIC
700.00	730.00	30.00	3H 06 MON ALTIMETER
700.00	730.00	30.00	SL OZ MOM VERTICAL SPEED INDIC
706.00			16BL12 REACH 170 KGAS
710.00			180947 MON INSTRUMENTS ON FINAL APP
720.00			180047 MON INSTRUMENTS ON FINAL APP
730.00			180047 MON INSTRUMENTS ON FINAL APP
730.00			00EY21 FILOT EXT VIS SCAN
730.00	735.00	5.00	SA 10 PILOT EXTERNAL Vision Scan
740.00			180069 SET SPEED BRAKES
740.00	743.26	3.26	4F 02 SET SPEED BRAKE LEVER TO ARM
740.00	740.73	0.73	4F 07 MONITOR SPEED BRAKE LEVER ARMED LT GREEN
744.00			180048 MON ADF/RMI-2
745.00			180080 MON INSTRUMENTS ON FINAL APP - P
745.00	775.00	30.00	3R 62 MONITOR LOCALIZER INDICATOR ON FD1
745.00	775.00	30.00	38 17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
745.00	775.00	30.00	3R 63 MON GLIDE SLOPE ATT INDIC ON FDI
745.00	775.00	30.00	3A 19 MONITOR AIRSPEED INDIC
745.00	776.00	\$0.00	3H 00 MON ALTIMETER
745.00	775.00		3L 02 MON VERTICAL SPEED INDIC
745.00			16BL13 CROSS REIFF

SINCE MISS	SION START	ACTIVITY Time	EVENT/F	PROCEDURE IK
748.00			160070	SET AUTO BRAKES
755.00		(ADDONNA	00EY01	C/P EXT VIS SCAN
765.00		ORIGINIAL PAGE I	B 180047	MON INSTRUMENTS ON FINAL APP
775.00		OF ROOP QUALITY	180047	MON INSTRUMENTS ON FINAL APP
775.00			160080	MON INSTRUMENTS ON FINAL APP - P
775.00	#05.00	30.00	3.8	62 MONITOR LOCALIZER INDICATOR ON FDI
775.00	805.00	30.00	36	17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
775.00	805.00	30.00	3R	63 MON GLIDE SLOPE ATT INDIC ON FDI
775.00	805.00	30.00	3.4	10 MONITOR AIRSPEED INDIC
775.00	805.00	30.00	3H	06 MON ALTIMETER
775.00	805.00	30.00	\$L	02 MON VERTICAL SPEED INDIC
€00.00			180058	REPORT RUNWAY IN
802.00	803.00	1.00	19	10 MONITOR CALL-OUT
\$05.00			00EV21	PILOT EXT VIS SCAN
805.00	810.00	\$.00	SA.	10 PILOT EXTERNAL VISION SCAN
808.00			160016	FLAP SET PROCEDURE
814.03	814.73	0.70	12	10 MONITOR CALL-OUT
\$15.00	815.44	0.44	75	25 MON ENG NO 1 EPR IND
815.44	815.88	0.44	7F	30 MON ENG NO Z EPR IND
808.00			160025	SET FLAPS TO FLAPS
808.00	808.70	0.70	191	60062 CALL OUT -[FLAPS 18]
812.00			180042	MON ADF/RMI-1
812.00	814.00	2.00	SD	28 MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC
012.00	814.00	1.00	5D	29 MON ADF POINTER NO.2 ON ADF/RMI 1 INDIC
815.00			160069	CROSS RWY OB OUTER MARKER
815.00	816.72	0.72	34	11 MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL
\$17.00	818.80	1.80	191	60075 CALL OUT -[GEAR DOWN AND LANDING CHECK- LIST]
815.00	\$17.10	2.10	311	OS START ELAPSED TIME
815.00			168L14	CROSS CATTA LOM-GEAR THEN EXTENDED AND 158 KCAS MAINTAINED
815.00			160049	MON RADIO ALTIMETER
\$20.00			160060	EXTEND LANDING GEAR
820.00			160000	MON INSTRUMENTS ON FINAL APP - P
■20.00	850.00	10.00	#R	62 MONITOR LOCALIZER INDICATOR ON FDI
820.00	850.00	30.00	35	17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
820.00	\$50.00	10.00	38	63 MON GLIDE SLOPE ATT INDIC ON FD!
820.00	850.00	10.00	\$A	10 MONITOR AIRSPEED INDIC
820.00	850.00	30.00	эн	OS MON ALTIMETER

SINCE MISSIC BEGINNING	N START	ACTIVITY Time	EVENT/PR Task	
820.00	850.00	30.00	\$L	02 MON VERTICAL SPEED INDIC
E45.00			160082	LANDING CHECKLIST
847.00	847.80	0.80	1P	10 MONITOR CALL-OUT
847.60	848.00	0.40	1P	14 MONITOR CALL-OUT
850.00	850.70	0.70	1P	10 MONITOR CALL-OUT
851.00	852.30	1.30	1P10	GREEN LIGHT)
854.50	865.20	0.70	17	10 MONITOR CALL-OUT
855.20	858.20	1.00	17	16 MONITOR CALL-OUT
858.20	468.60	0.40	17	14 MONITOR CALL-OUT
858.60	\$59.70	1.10	17	12 MONITOR CALL-OUT PILOT EXT VIS SCAN
850.00			00EY21 *A	10 PILOT EXTERNAL
850.00	858.00	5.00	**	VISION SCAN
855.00			160080	MON INSTRUMENTS ON FINAL APP - P
855.00	885.00	30.00	38	62 MONITOR LOCALIZER INDICATOR ON FDI
855 .00	885.00	\$0.00	11	17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
855.00	885.00	30.00	38	63 MON GLIDE SLOPE ATT INDIC ON FDI
855.00	865.00	30.00	3A	10 MONITOR AIRSPEED INDIC
855.00	886.00	30.00	3H	OS MON ALTIMETER
855.00	865.00	30.00	3L	02 MON VERTICAL SPEED INDIC
885.00			00EV02	C/P EXT VIB SCAN
877.00			100047	MON INSTRUMENTS ON FINAL APP
885.00			00EV21	PILOT EXT VIS SCAN
885.00	**0.00	8.00	14	10 PILOT EXTERNAL VISION SCAN
889.00			030007	ENGINE INSTRUMENT SCAN
890.00			160080	MON INSTRUMENTS ON FINAL APP - P
890.00	\$20.00	30.00	SR	62 MONITOR LOCALIZER INDICATOR ON FDI
890.00	920.00	30.00	38	17 MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI
890.00	920.00	30.00	18	63 MON GLIDE SLOPE ATT INDIC ON FDI
\$90.00	\$20.00	30.00	3A	10 MONITOR AIRSPEED INDIC
890.00	920.00	10.00	зн	06 MON ALTIMETER
890.00	\$20.00	30.00	31.	02 MON YERTICAL SPEED INDIC
895.00			160049	MON RADIO ALTIMETER
900.00			00EY04	C/P EXT VIS SCAN
923.00			160065	DESCEND THRU -DECISION HEIGTH
925.58	928.38	0.80	1P	11 MONITOR CALL-OUT
924.00			160096	CONTROL AIRCRAFT THRU TOUCHDOWN
924.00	960.00	26.00	#A	06 CAPT VIEW THRU NO.1 WINDOW
924.00	960.00	28.00	4A	** MANUALLY CONT A/C
925.00			100004	CROSS RWY OS MIDDLE MARKER

			•			
SINCE MI	SSION START END	ACTIVITY Time		EVENT/PI TASI		IRE
925.00	926.91	1.01	ORIG ÏNAL PA GE IS	37	18	MONITOR MIDDLE MARKER ANNUN LT ON AND AUDIBLE SIGNAL
\$28.00			OF POOR QUALITY	168L15	CROS	S MIDDLE MARKER
930.00			•	00EA03	C/P	EXT VIS SCAN
930.00				080003		HT INSTRUMENT
030.00	940.00	10.00		38	10	MON PITCH ATTITUDE
930.00	940.00	10.00		\$ L	02	MON VERTICAL SPEED
*30.00	940.00	10.00		3A	10	MONITOR AIRSPEED
930.00	040.00	10.00		**	01	MONITOR A/C HEADING RELATIVE TO SELECTED HDB ON CI
940.00				160047		INSTRUMENTS ON
941.00				188L18	CROS	S RW THRESHOLD
\$50.00				00EY02	C/P	EXT YIS SCAN
950.00				180088	TOUC	HDOWN
950.00	952.50	2.50		48	08	SET THRUST LEVERS TO
950.00	1025.00	78.00		4A	31	MANUALLY CONTROL A/C
952.50	973.50	21.00		40	01	SET THRUST REVERSER LEVERS TO ON
974.00	976.76	2.76		4C	02	SET THRUST REVERSER LEVERS TO OFF
978.00	901.26	3.26		4F	01	SET SPD BRAKE LEVER TO DOWN
950.00	1025.00	78.00		4M	04	ACTUATE MOSE GEAR STEERING USING RUDDER PEDALS
950.00	1025.00	75.00		8A	01	VIEW RUNWAY AHEAD
950.00				168L17	TOUC	HDOWN
950.00				090003		HT INSTRUMENT
950.00	960.00	10.00		3R	10	MON PITCH ATTITUDE INDIC ON FD!
950.00	960.00	10.00		3 L	02	MON VERTICAL SPEED
950.00	\$60.00	10.00		3A	10	MONITOR AIRSPEED
950.00	960.00	10.00		38	01	MONITOR A/C HEADING RELATIVE TO SELECTED HDQ ON CI
960.00				160047		INSTRUMENTS ON L APP
970.00				00EY02		EXT VIS SCAN
970.00				000003		HT INSTRUMENT
870.00	**0.00	10.00		3R	10	MON PITCH ATTITUDE
970.00	980.00	10.00		\$L	02	MON VERTICAL SPEED
970.00	**0.00	10.00		3A	10	MONITOR AIRSPEED
970.00	**0.00	10.00		**	01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
984.00				16DL71	HAND	OFF TO GROUND
984.00	***.**	1.60		1010	32201	MON INFORMATION MANAGEMENT ATENSON
965.60	987.80	2.00		1910	IXX02	MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PHDQ) AMBER

SINCE MISSION SEGINNING	START END	ACTIVITY Time	EVENT/PROCEDU TASK	RE
989.40	997.40	8.00	10164487	MONITOR UPLINK CALL- OUT FROM COPILOT
890.00				HT INSTRUMENT
990.00 10	00.00	10.00	3R 10	MON PITCH ATTITUDE
880.00 10	00.00	10.00	3L 02	MON VERTICAL SPEED
990.00 1C	000.00	10.00	\$A 10	MONITOR AIRSPEED INDIC
990.00 10	000.00	10.00	35 01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
1000.00				AND MONITOR ATL ON 121.9/VHF-2L
1009.00			16DL73 TAXI	CLEARANCE FROM
1009.00 10	010.60	1.60	1016XX01	MON INFORMATION MANAGEMENT ATENSON
1010.60 10	012.60	2.00	1D16XX02	MON INFORMATION MANAGEMENT DISPLAY [MODE-8 UPLINK PHDG] AMBER
1014.40 10	018.40	8.00	1016AA88	MONITOR UPLINK CALL- OUT FROM COPILOT
1020.00			00EV01 C/P	EXT VIS SCAN

B.2 NORMAL ILS APPROACH—CONVENTIONAL FLIGHT DECK Nonflying Pilot

MANAGEMENT AND SCENARIO REPORT SE MISSION SCENARIO REPORT SE MISSION - CURRENT MAS SE MISSION - CURRENT MAS SE MISSION - CURRENT MAS SE MISSION - CONFIGURATION - 737 CONVNT FLT DCK SE CREMMEMBER - COPILOT SE MISSION - COPILOT SE MISSION SE MI

TIME INTER SINCE MISS BEGINNING		TOTAL ACTIVITY TIME	FLIGHT PHASE EVENT/PROCEDURE TASK
0.00			108L BASELINE FFD ILS APP
0.00		·	168L01 CROSS LOGEN INTERSEC TION AT 250 KCAS AND 14000 PETY.ATL CENTR HAS PREVIOUSLY INSTR UCTED HASA 515 TO CONTACT ATL APPR AT LOGEN.YHF-2R HAS AL- READY BEEN TUNED TO CORRECT FREQ-126.9.
0.00			180090 CONTACT ATL APPROACH ON 128.9
0.00	1.45	1.45	18 06 SET VHF-2 COMM TFR SW TO RIGHT
2.40	9.40	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
2.40	9.40	7.00	1P16XX90 ATL APP, MASA 515 DES CENDING TO 11000 FT WITH IMFO LIMA.
9.40	18.40	4.00	1P18YY90 NASA 515,ATL APPR, Roger.
0.00			140003 ALTITUDE CHANGE PROC
10.00			980039 FLIGHT INSTRUMENT SCAM - F
15.00			180013 SET NAV-1 TO RUNWAY St ils -109.3
15.00	21.00	8.00	SS OS RETREIVE CHARTS
21.00	26.00	5.00	88180003 REVIEW CHARTS TO DETERMINE RUMWAY OS ILS FREQ AND REG VOR FREG
28.00	31.06	\$.08	SU 01 MON MAY-1 FREQ IMPIC
26.00	20.00	3.00	SU 02 SET MAY-1 FREQ - Whole No.s
29.00	31.08	2.00	SU 08 SET MAY-1 FREQ - Fractions
31.80	34.40	2.90	1P160058 CALL OUT -(RUNWAY SL ILS IS ON MAY 13
31.50	\$3.77	2.27	SH 92 MON YOR POINTER MO.1 ON YOR/AMI 2 INDIC
15.00			COEVSO PILOT EXT VIS SCAN
38.00			160039 SET ADF-1 TO CATTA -375KC
38.00	41.00	3.00	5D 17 SET ADP NO.1 BFO SW TO OFF
41.00	41.77	0.77	SD 22 NON ADF NO.1 TUNING METER INDIC
41.77	48.78	1.96	60 01 MONITOR ADF NO 1 FREQ INDIC
48.75	45.73	1.00	6D 02 SELECT ADF NO 1 FREQ IMDIC
45.73	47.23	1.50	1P180065 CALL OUT -[CATTA ON ADF-1]
49.00			180040 SET ADF-2 TO FLANC -844 .
40.00	51.60	2.40	SE 17 SEL ADP NO.2 FREQ Bamd .1040
\$2.00	63.98	1.88	GE 01 MON ADF NO 2 FREQ. IMDIC
\$2.00	\$3.98	1.96	SE 02 SELECT ADF NO 2 FREQ

SINCE MISSION BEGINNING	START END	ACTIVITY Time	EVENT/PROCEDURE TASK
52.00	54.26	2.20	SE 20 MON ADF NO.2 TUNING Meter indic
\$4.00	55.50	1.50	1P190069 CALL OUT -[FLANC ON ADF-2]
58.00			180038 SET DECISION HEIGTH ON RADIO ALTIMETER
64.00			930007 ENGINE INSTRUMENT SCAN
64.00	84.44	0.44	7F 2S MON ENG NO 1 EPR IND
64.00	64.44	0.44	7F 30 MON ENG NO 2 EPR IND
64.44	64.88	0.44	7F 21 MON NO 1 ENG N1 IND
64.44	64.88	0.44	7F 22 MON NO 2 ENG N1 IND
64.88	65.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
64.88	65.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP 1MD
85.32	66.76	0.44	7F 28 MON NO 1 ENG N2 IND
65.32	65.76	0.44	7F 24 MON NO 2 ENG N2 IND
65.76	66.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic
65.76	86.20	0.44	7F 34 MOM ENG NO 2 FUEL Flow indic
66.20	68.84	0.44	7F 09 MON NO 1 EMB OIL Press indic
88.64	67.08	0.44	7F 10 MON NO 1 ENG OIL Temp (ndic
66.64	67.08	0.44	7F 18 MON NO 2 ENG OIL Temp (NDIC
67.08	67.52	0.44	7F 11 MON NO 1 ENG OIL GTY
67.08	67.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
67.52	67.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
67.52	67.98	0.44	7F 20 MON NO 2 ENG VISA AMPLITUDE INDIC
65.00			16AA01 ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SMOULD PERMIT DECE TO 210 FOR CROSSING BAHAR AT 8000 FT.
70.00			180005 DESCENT AND APPROACH CHECKLIST - 1
70.00	72.00	2.00	1P 02 MONITOR CALL-OUT
72.00	77.80	5.00	88 02 RETREIVE CHECKLIST
78.00	83.00	6.00	8B 05 FIND CHECKLIST IN MANDBOOK
83.00	88.00	2.00	OB OS READ MEXT ITEM ON CHECKLIST
85.00	86.00	1.00	1P160044 CALL OUT-[ANTI-ICE]
87.00	87.80	0.80	1P160046 CALL OUT-[NOT REQD]
88.00	90.00	2.00	SB OS READ NEXT ITEM ON CHECKLIST
80.00	91.80	1.80	1P180048 CALL OUT -[AIR COM- DITIONING AND PRES- SURIZATION]
92.00	94.67	2.67	7D 68 MON PASS CAB TEMP COMT SETTING
94.67	18.69	2.02	70 70 MON CONT CAB TEMP CONT SETTING
.	87.86	1.17	7E OS MON LDG ALT CHTR
98.00	98.40	0.40	1P160047 CALL OUT [SET]
70.00			ODEVSS PILOT EXT VIS SCAN

SINCE MISS BEGINNING	ION START	ACTIVITY Time	Toring I	EVENT/PI		RE
100.00				160006	DESC	ENT AND APPROACH
100.00	102.00	2.00		••	08	READ NEXT ITEM ON CHECKLIST
102.00	102.90	0.90		1910	0048	CALL OUT-[START SWITCHES]
108.50	109.00	0.50		17	06	MONITOR REPORT
109.00	111.00	2.00		**	08	READ NEXT ITEM ON CHECKLIST
111.00	112.10	1.10		1910	0050	CALL OUT-[IMBOARD LANDING LIGHTS]
112.00	114.20	2.20		79	17	SET LANDING LIGHTS SW TO ON
114.20	114.50	0.30		1P10	10061	CALL OUT -[ON]
114.50	118.50	2.00		48	03	READ NEXT ITEM ON CHECKLIST
116.50	117.90	1.40		1910	0062	CALL OUT -[ALTIMETER AND INSTRUMENTS]
118.00	120.37	2.37		3#	02	MON CORR BARO ALT
120.37	123.37	3.00		3H	06	F.O. CHECK CAPT<8 ALTIMETER BARO SET AND INDICATED ALTI- TUDE
123.40	124.70	1.30		1910	0068	CALL OUT-[SET AND CROSSCHECKED]
128.00				180007		ENT AND APPROACH
128.00	128.00	2.00		13	03	READ NEXT ITEM ON CHECKLIST
128.00	129.50	1.50		1910	50054	CALL OUT-[EPR AND IAS BUGS]
128.00	131.00	3.00		8801	10004	RETREIVE FLIGHT Planning Ref. Data Manual
181.00	138.00	5.00		8816	10001	DETERMINE GO-AROUND EPR BUG SET VALUE
138.00	138.32	2.32		7F	26	SET ENG NO 1 EPR BUG
136.32	138.32	2.00		7#	27	MON ENR NO 1 EPR BUG
138.32	140.64	2.32		78	20	SET ENG NO 2 EPR BUG
138.64	140.64	2.00		77	20	MON ENG NO 2 EPR BUG
141.00	146.00	\$.00		4310	0002	DETERMINE LANDING V-REF BUG SET VALUE
148.00	148.57	2.57		AE	07	MON Y-REF BUQ SETTING
146.00	148.57	2.87		3A	05	SET Y-REF BUG
146.00	147.90	1.90			0055	CALL OUT -[V-REF IS
151.00	154.00	3.00		84	12	F.O. CHECK CAPTIS V-REF BUG SETTING
154.00	155.60	1.00		1910	0058	CALL OUT -{BUGS SET AND CROSS-CHECKED}
155.60	187.60	2.00		**	08	READ WEXT ITEM ON CHECKLIST
155.60	158.90	1.30		1716	0057	CALL OUT -[CHECKLIST COMPLETED]
157.50	160.60	3.00		**	08	STOW CHECKLIST
160.60	162.60	2.00		8801	0005	STOW FLIGHT PLANNING REF. DATA MANUAL
130.00		e ,		090019	FLIG	HT INSTRUMENT - D
185.00				080007	SCAN ENG!	NE INSTRUMENT
165.00	185.44	0.44		7#	25	MON ENG NO 1 EPR IND
165.00	185.44	0.44		7F	80	MON ENG NO 2 EPR IND
165.44	165.88	0.44		7F	21	MON NO 1 ENG N1 IND
165.44	165.88	0.44		7#	22	MON NO 2 ENG N1 IND

SINCE MISSIO	N START	ACTIVITY TIME	EVENT/PROCEDURE TASK
165.88	166.32	0.44	7F 31 MON ENG NO 1 EXH GAS Temp Ind
165.88	166.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
166.32	166.78	0.44	7F 28 MON NO 1 ENG M2 IND
166.32	165.76	0.44	7F 24 MON NO 2 ENG N2 IND
168.78	167.20	0.44	7F 3\$ MON ENG NO 1 FUEL Flow Indic
168.76	187.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
167.20	167.64	0.44	7F ON MON NO 1 ENG OIL Press Indic
167.64	168.08	0.44	7F 10 MON NO 1 ENG OIL Temp indic
167.64	168.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
168.08	188.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
168.08	168.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
168.52	168.86	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
168.52	168.96	0.44	7F 20 MON NO 2 ENG VIBR Amplitude Indic
150.00			ODEVOS C/P EXT VIS SCAN
150.00	175.00	25.00	BA 11 PILOT EXTERNAL VISION SCAN
195.00			160048 MON ADF/RMI-2
195.00	197.26	2.26	SE 28 MON ADE NO.1 POINTER
195.00			ON ADF/RM1 2 INDIC 180091 HANDOFF TO ATL FINAL APPROACH CONTROLLER
185.00	207.00	12.00	1P18XX91 M 618, TURN MT HD0270 DESCUD AND MAINTAIN 8000 FT. CONTACT ATL APPR ON 127.26
207.00	214.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
207.00	214.00	7.00	1P16YY01 S15,ROGER,HDG 270. MAINTAIN 6000,APPR ON 127.25.
200.00			140007 NEADING CHANGE PROC.
200.00			16BLO2 BEGIN TURN TO DOWN- WIND LEG
210.00			16BLO3 DESCEND THRU 11000.
215.00			16AA01 ADJUST THRUST AND PITCH TO MAINTAIN A BOO FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT 8000 FT.
210.00			100002 TUME ATL APPROACH ON 127.25
210.00	223.88	4.00	1B 01 MON YMF-2L FREQ IND
210.00	221.90	2.90	18 02 SET VHF-2L FREQ- Whole Mo.8
221.88	228.88	1.98	18 08 2ET VMF-2L FREQ - Fractions
226.00			188093 CONTACT ATL APPROACH ON 127.25
228.00	227.49	1.49	18 06 SET YMF-2 COMM TFR SW TO LEFT
228.40	231.90	3.50	1A 10 ACT PUSH-TO-TALK SW
228.40	231.00	3.50	1P16XX93 ATL APPR.MASA 515 Descending to 6000.
231.90	235.90	4.00	1P18YY00 MASA 518,ATL APPR. ROGER.

SINCE MISSI BEGINNING	ON START	ACTIVITY TIME	EVENT/PRO TASK	OCEDURE
220.00			090017	FLIGHT INSTRUMENT SCAN - C
240.00			00EV09	C/P EXT VIS SCAN
240.00	285.00	45.00	8.4	12 PILOT EXTERNAL VISION SCAN
250.00			080039	FLIGHT INSTRUMENT SCAN - F
288.00			030007	ENGINE INSTRUMENT SCAN
288.00	288.44	0.44	7F	25 MON ENG NO 1 EPR IND
288.00	288.44	0.44	7F	SO MON ENG NO 2 EFR IND
288.44	288.88	0.44	7#	21 MON NO 1 ENG N1 IND
288.44	248.88	0.44	76	22 MON NO 2 ENG N1 IND
288.68	288.32	0.44	7 F	31 MON ENG NO 1 EXH GAS TEMP IND
288.68	280.32	0.44	7F	22 MON ENG NO 2 EXH GAS TEMP IND
289.32	289.76	0.44	7F	23 MON NO 1 ENG N2 IND
200.32	280.76	0.44	7F	24 MON NO 2 ENG N2 IND
289.76	290.20	0.44	7F	SS MON ENG NO 1 FUEL FLOW INDIC
289.76	200.20	0.44	7F	34 MON ENG NO 2 FUEL FLOW INDIC
290.20	290.64	0.44	7F	OF MON NO 1 ENG CIL PRESS INDIC
290.64	291.08	0.44	78	10 MON NO 1 ENG CIL TEMP INDIC
200.64	291.08	0.44	75	18 MON NO 2 ENG OIL TEMP INDIC
291.08	201.52	0.44	7F	11 MON NO 1 ENG OIL QTY
201.00	291.52	0.44	78	19 MON NO 2 ENG OIL QTY INDIC
201.52	291.98	0.44	7F	12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
201.52	291.96	0.44	75	20 MON NO 2 ENG VIBR AMPLITUDE INDIC
295.00			00EA08	C/P EXT VIS SCAN
295.00	340.00	48.00	9.4	12 PILOT EXTERNAL VIBION SCAN
330.00			184401	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FFM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHAR AT 5000 FT.
340.00			00EY04	C/P EXT VIS SCAN
340.00	\$60.00	20.00	\$A	10 PILOT EXTERNAL VISION SCAN
163.00			030007	ENGINE INSTRUMENT SCAN
363.00	363.44	0.44	7F	25 MON ENG NO 1 EPR IND
383.00	353.44	0.44	75	30 MON ENG NO 2 EPR IND
363.44	161.88	0.44	7 <i>F</i>	21 MON NO 1 ENG N1 IND
363.44	363.86	0.44	7F	22 MON NO 2 ENG N1 IND
363.88	364.32	0.44	76	31 MON ENG NO 1 EXH GAS TEMP IND
363.88	164.32	0.44	7.5	32 MON ENG NO 2 EXH GAS TEMP IND
364.32	364.76	0.44	75	23 MON NO 1 ENG N2 1ND
364.32	364.78	0.44	75	24 MON NO 2 ENG N2 IND
364.76	365.20	0.44	75	38 MON ENG NO 1 FUEL FLOW INDIC

			· P *:	
SINCE MISSION BEGINNING	E START	ACTIVITY TIME		PROCEDURE SK
364.76	365.20	0.44	75	34 MON ENG NO 2 FUEL FLOW INDIC
365.20	365.84	0.44	79	09 MON NO 1 ENG OIL PRESS INDIC
365.64	366.08	0.44	78	TEMP INDIC
305.04	368.08	0.44	78	18 MON NO 2 ENG OIL TEMP INDIC
366.08	366.52	0.44	78	11 MON NO 1 ENG OIL QTY
366.08	366.52	0.44	78	19 MON NO 2 ENG OIL QTY INDIC
366.52	166.96	0.44	79	12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
366.52	166.96	0.44	79	26 MON NO 2 ENG VISR AMPLITUDE INDIC
370.00			1651.04	
			180094	
\$70.00				FROM ATL APPROACH
\$70.00	375.00	6.00	11	16XX94 MASA \$15.DESCEND AND MAINTAIN 5000 FT.
375.00	378.50	3.50	1/	10 ACT PUSH-TO-TALK SW
375.00	378.50	3.50	11	16YY94 515, ROGER, MAINTAIN 5000.
370.00			090031	FLIGHT INSTRUMENT SCAN - F
385.00			OOEVO	C/P EXT VIS SCAN
385.00	425.00	40.00	8/	11 PILOT EXTERNAL VISION SCAN
430.00			630007	PENGINE INSTRUMENT SCAN
430.00	430.44	0.44	71	25 MON ENG NO 1 EPR IND
430.00	430.44	0.44	71	30 MON ENG NO 2 EPR IND
430.44	430.88	0.44	71	F 21 MON NO 1 ENG N1 IND
430.44	430.88	0.44	71	F 22 MON NO 2 ENG N1 IND
430.88	431.32	0.44	71	F 31 MON ENG NO 1 EXH GAS
430.88	431.32	0.44	7	
431.32	431.76	0.44	7	TEMP IND F 23 MON NO 1 ENG N2 IND
		0.44	71	F 24 MON NO 2 ENG N2 IND
431.32 431.76	431.78	0.44	71	
431.76	432.20	0.44	71	
432.20	432.64	0.44	7	
432.64	433.08	0.44	71	F 10 MON NO 1 ENG OIL TEMP INDIC
432.84	433.08	0.44	71	
433.08	433.52	0.44	71	F 11 MON NO 1 ENG OIL GTY
433.00	433.52	0.44	71	F 19 MON NO 2 ENG OIL QTY INDIC
433.52	433.86	0.44	71	F 12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
433.52	433.98	0.44	71	
440.00			00EV0	C/P EXT VIS SCAN
440.00	455.00	15.00	•	
450.00			16000	
450.00	454	4.11	1	
450.00	454.95	4.38		. 41 man 1111 110 110 110 110

			OF POOR	QUALITY	EVENT/PROC	TANGE
SINCE MISSIC BEGINNING	IN START END	TIME TIME		~	TASK	EDUNE
450.00	452.01	2.01			1A	OS SET VHF-1R FREG. WHOLE NO.S FRACTIONS
455.00	457.30	2.39			1A	06 SET VHF-1 COMM TFR SW TO RIGHT
458.43	457.05	1.52			18	17 SET COMM 2 VHF-1 COMM RECVR SW TO ON
458.00	482.00	24.00			1A	15 MON YHF-1 COMM AUDIO
458.00	461.42	3.42			1P1600	OI MON RADIO COMM - [INFORMATION LIMA ONE SEVEN ZERO FIVE OBSERVATION-TWO
461.42	485.98	4.56			191600	PIVE HUNDRED SCAT- TERED CEILING FOUR THOUSAND BROKEN. VISIBILITY ONE SIX.
465.00	470.54	4.55			1P1600	OS TEMPERATURE FIVE NIMER. WIND ONE ONE ZERO DEGREES AT TEN GUSTING TO ONE SEVEN
470.54	475.10	4.50			1P1800	04 . ALTIMETER TWO - NINER EIGHT FOUR. SIMULTANEOUS PARAL- LEL APPROACHES IN
475.10	479.66	4.56			1P1600	OS OPERATION ON RUMBAYS EIGHT LEFT AND MINER RIGHT. ADVISE CON- TROLLER ON INITIAL
479.66	481.84	2.28			1P1600	OG CONTACT YOU HAVE IM- FORMATION LIMA.)
450.00					160048 M	ON ADF/RM1-2
460.00	462.26	2.20			\$E	26 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
480.00					168L05 C	ROSS FT NDB
465.00					00EY09 C	/P EXT VIS SCAN
465.00	\$10.00	45.00			8A	12 PILOT EXTERNAL YISION SCAN
470.00					9 2 5 7 7	DJUST THRUST AND ITCH TO MAINTAIN A OF FPM DESCENT AT 60 KCAS USING PITCH WS MODE OF A.P. ILOT HAS DETERMINED MAIT THIS SHOULD ERMIT DECEL TO 210 OR CROSSING BAHRR T 6005 FT.
480.00						ET ALTIMETER BARO ETTING TO 29.84
480.00	482.00	2.00			171600	48 CALL OUT-[DESCENT AND APPROACH CHECK- LIST]
484.00					140032 A	LTIMETER BARG SET ROC.
484.00	480.65	2.65			811	04 MONITOR ALTIMETER BARO SETTING INDIC
484.00	488.88	2.45			\$H	08 SET ALTIMETER BARO SETTING CONTROL
400.00						LIGHT INSTRUMENT CAN - C
\$13.00						MG!NE INSTRUMENT CAN
\$13.00	513.44	0.44				25 MON ENG NO 1 EPR IND
\$13.00	618.44	0.44				0 MON ENG NO 2 EPR IND
613.44	513.88	0.44				21 MON NO 1 ENG N1 IND
513.44	513.88	0.44				22 MON NO 2 ENG N1 IND
\$13.88	514.32	0.44			7F	S: MON ENG NO 1 EXH GAS TEMP IND
\$13.88	514.32	0.44			7F	12 MON ENG NO 2 EXH GAS TEMP IND
814.32	514.76	0.44			7F	28 MON NO 1 EMS N2 IND

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
\$14.32	\$14.78	0.44	7F 24 MON NO 2 ENG N2 IND
\$14.78	\$15.20	0.44	7F 38 MON ENG NO 1 FUEL Flow Indic
\$14.78	515.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
615.20	515.64	0.44	7F OO MON NO 1 ENG CIL Press indic
\$15.64	\$10.08	0.44	7F 10 MON NO 1 ENG OIL Temp Indic
\$15.64	\$18.08	0.44	7F 18 MON NO 2 ENG OIL TEMP HOIC
516.08	516.52	0.44	7F 11 MON NO 1 ENQ OIL GTY
\$18.08	\$16.52	0.44	7F 10 MON NO 2 ENG CIL
\$10.52	516.96	0.44	QTY INDIC 7F 12 MON NO 1 ENG_VIBRA-
516.52	\$10.96	0.44	TION AMPLITUDE INDIC 7F 20 MON NO 2 ENG VIBR
314.32	******	V.44	AMPLITUDE INDIC
\$19.00			180041 MON VOR/RMI-1
\$20.00			180005 VECTOR FOR BASE LEG From ATL APPROACH
520.00	626.00	\$.00	1P10XX95 MASA 518,TURM LEFT MEADING 180.
\$25.00	528.50	3.50	1A 10 ACT PUSH-TO-TALK SW
\$25.00	528.50	3.50	1P18YY98 \$18,ROGER, HEADING
			180. 140007 HEADING CHANGE PROC.
523.00			188LOS BERIN TURN TO BASE
523.00			140007 MEADING CHANGE PROC.
\$33.00			
\$40.00			140023 REPORT 1000 FT TO LEVEL OFF
\$40.00	542.13	2.13	3M 02 MON CORR BARO ALT INDIC
\$42.00	543.70	1.70	1P140045 CALL OUT -[1000 FEET TO LEVEL OFF]
\$43.00			140007 HEADING CHANGE PROC.
\$50.00			OCEVOS C/P EXT VIS SCAN
\$50.00	565.00	15.00	BA 10 PILOT EXTERNAL VISION SCAN
\$55.00			090003 FLIGHT INSTRUMENT Scan - A
865.00			180041 MON VOR/RMI-1
588.00			160042 MON ADF/RMI-1
\$70.00			180096 VECTOR TO INTERCEPT AND FINAL APPROACH GLEARANCE FROM ATL APPROACH CONTROL
\$70.00	\$80.00	10.00	1P16XX96 MASA 515,12 MILES From om, turm LT hdg 110. Maintain 5000 ft Until Crossing Sahar
\$87.00	694.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
\$87.00	584.00	7.00	1P16YY98 515 ROGER, CLEARED FOR ILS 5 LEFT APPR, TOWER AT BAHAR.
\$80.00	\$\$7.00	7.00	1P16ZZ96 CLEARED FOR ILS RUN- WAY 8 LEFT APPROACH. CONTACT TOWER OM 118.5 AV BAHRA.
676.00			140007 MEADING CHANGE PROC.
675.00			168LO7 TURM TO INTERCEPT FINAL APPR. COURSE
585.00			140007 HEADING CHANGE PROC.
			180034 TUNE ATLANTA TOWER
\$87.00			-110.5

SINCE MISSI	ON START	ACTIVITY TIME	EVENT/PROCEDURE Task
597.00	601.88	4.86	18 07 MON VMF-2R FREG IND
\$97.00	500.88	2.88	18 Q8 BET YMF-2R FREQ - WMOLE NO.8
599.88	601.86	1.00	18 00 SET VHF-2R FREQ - Fractions
600.00			160078 MON INSTRUMENTS ON FINAL APP - P
607.00			160047 MON INSTRUMENTS ON FINAL APP
607.00	617.00	10.00	3R 62 MONITOR LOCALIZER Indicator on FDI
607.00	617.00	10.00	38 04 MON A/C POSITION RELATIVE TO BELECTED COURSE ON CI
607.00	617.00	10.00	SR 63 MON QLIDE SLOPE ATT INDIC ON FDI
607.00	617.00	10.00	SA 10 MOMITOR AIRSPEED INDIC
807.00	617.00	10.00	SM 00 MON ALTIMETER
607.00	617.00	10.00	3L 02 MON VERTICAL SPEED INDIC
8 10.00			18AA02 SELECT ALT HOLD AND AUTO APP FD MODES TO CAPTURE LOCALIZER PRIOR TO BAHRR, LEVEL AT 8000 FT
\$10.00			140003 ALTITUDE CHANGE PROC
810.00			188L08 LEVEL OFF AT 6000 FT BEGIN DECEL FROM 250 TO 210 KGAS
617.00			160047 MON INSTRUMENTS ON FINAL APP
617.00	627.00	10.00	3R 92 MONITOR LOCALIZER INDICATOR ON FDI
617.00	627.00	10.00	38 04 MOM A/C POSITION RELATIVE TO SELECTED COURSE ON C!
\$17.00	627.00	10.00	SR GS MON GLIDE SLOPE ATT INDIC ON FDI
617.00	827.00	10.00	3A 10 MOMITOR AIRSPEED Indic
817.00	427.00	10.00	SH OS MON ALTIMETER
617.00	627.00	10.00	SL 02 MON VERTICAL SPEED INDIC
620.00			16AAQ3 ADJUST THRUST TO DECEL TO 210 KGAS BEFORE BAHRR
623.00			180037 CAPTURE ILS LOC SEGIN TURN TO HOG 090
623.00	028.50	2.50	3R 59 MON INITIAL MOVEMENT OF ROLL COMMAND SAR ON FD!
625.60	828.80	1.30	1P100087 CALL OUT -[LOCALIZER ALIVE]
629.50	631.60	2.00	1P 02 MONITOR CALL-OUT
827.00			160047 MON INSTRUMENTS ON FINAL APP
827.00	637.00	10.00	SR 82 MONITOR LOCALIZER INDICATOR ON FD!
627.00	637.00	10.00	38 04 MOM A/C POSITION RELATIVE TO SELECTED COURSE ON CI
627.00	637.00	10.00	SR SS MON BLIDE SLOPE ATT INDIC ON FDI
627.00	637.00	10.00	3A 10 MONITOR AIRSPEED INDIC
627.00	637.00	10.00	3H 06 MOH ALTIMETER
627.00	017.00	10.00	3L 02 MON VERTICAL SPEED INDIC

\$27.00	SINCE MISSIO	N START	ACTIVITY Time	EVENT/PRO Task	OCEDURE
## 197.00 ## 197	637.00	ENV	1186	160047	
## 27.00 447.00 10.00 10.00 38 58 100 10	637.00	647.00	10.00	311	
\$27.00 \$47.00 \$10.00 \$10.00 \$1 \$1 \$1 \$1 \$100 \$10 \$1 \$1 \$1 \$1 \$100 \$10 \$1	837.00	647.00	10.00	18	RELATIVE TO SELECTED
\$37.00 \$47.00 10.00 3H 00 MON VERTICAL SPEED 10.00 1	637.00	647.00	10.00	\$R	63 MON GLIDE SLOPE ATT INDIC ON FDI
## ## ## ## ## ## ## ## ## ## ## ## ##	637.00	647.00	10.00	8.4	
\$37.00 \$47.00 \$10.00 \$1	637 00	447.00	10.00	3H	OS MON ALTIMETER
#43.00 #45.28 1.28 7.28 7.28 7.28 7.28 7.28 845.00 #45.28 #45.00 9.33 7.2 8 MON ALL ANHUM LTS CONTROL A/C ON FIRAL PARTY OF FI			10.00	\$L	
## A 28 ACTUARE ABBUST PALL ## ASS. 00 045.81 0.53 TA 28 ACTUARE ABBUST PALL ## ASS. 00 045.81 0.53 TA 28 ACTUARE ABBUST PALL ## ASS. 00 045.81 0.53 TA 28 ACTUARE ABBUST PALL ## ASS. 00 045.81 0.53 TA 28 ACTUARE ABBUST PALL ## ASS. 00 180072 MONITOR LOCALIZER ## MONITOR LOCA	444 88			160045	ANNUNCIATOR RECALL
445.00 180073 CONTROL ACC ON FIRST APPROACH - C 181073 CON		645.28	2.28	7.4	28 ACTUATE ANNUM PHL RECALL SW
845.00			0.53	7A	38 MON ALL ANNUN LTS
\$47.00 \$57.00 \$10.00 \$10.00 \$28 \$2 \$20 \$2.00 \$10.00 \$28 \$2 \$20 \$2.00 \$2.		645.61	V. 33	160073	CONTROL A/C ON FINAL APPROACH - C 16)
#47.00	845.00			180079	
\$47.00 \$57.00 10.00 10.00 38 \$2 MONITOR LOCALIZEE INDICATOR OF FDI INCIDATOR OF FDI INCIDAT	647.00			160047	
### 100 \$87.00 10.00 \$87.00 10.00 \$8	647.00	857.00	10.00	38	82 MONITOR LOCALIZER INDICATOR ON FDI
## 100	847.00	657.00	10.00	25	RELATIVE TO SELECTED
### 100	647.00	867.00	10.00	\$R	63 MON GLIDE \$LOPE ATT INDIC ON FDI
## 10.00	847.00	457.00	10.00	3A	
### 10.00 ### 10	447 00	457 00	10.00	3H	OS MON ALTIMETER
### ST. 00 18041 MON YOR/RMI-1 ### ST. 00 18042 MON ADF/RMI-1 ### 18044 MON ADF/RMI-1 ### 18044 MON ADF/RMI-2 ### 18044 MON ADF/RMI-2 ### 18044 MON ADF/RMI-2 ### 18044 MON ADF/RMI-2 ### 18049 REACH 210 KCAS ### 18044 ACQUIRE GLIDESLOPE ### 18040 ACQUIRE GLIDESLOPE ### 18044 ACQUIRE GLIDESLOPE ### 18044 ACQUIRE GLIDESLOPE ### 18040 ACQUIRE GLIDESLOPE ### 18044 ACQUIRE GLIDESLOPE ### 18040 ACQUIRE GLIDESLOPE ### 18044 ACQUIRE G				\$L	
\$57.00	650.00			180073	CONTROL A/C ON FINAL APPROACH - C (6)
19042 MON ADF/AMI-1 19048 MON ADF/AMI-2 19048 MON ADF/AMI-2 19048 MON ADF/AMI-2 19018 MON	455.00			180041	MON YOR/RMI-1
### 1.00				160042	MON ADF/RMI-1
Second S				160048	MON ADF/RMI-2
\$60.00 \$6		050.20	2.20	6E	26 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
\$60.00	660.00			188109	REACH 210 KCAS
Command Bar On FDI	860.00			160054	ACQUIRE GLIDESLOPE
SECOND S	660.00	462.58	2.58	3.8	OF GLIDE SLOPE
## 1.40 ## 1.4	662.60	663.60	1,00	191	60071 CALL OUT -[GLIDE SLOPE ALIVE]
## 10	664.00			160061	FINAL LANDING CLEAR-
886.40 871.40 5.00 18 17 COMM VIA VHF-2 870.40 674.40 4.00 19180038 RADIO COMM-[ATLANTA TOWER, NASA STA.40 881.40 7.00 18 19 MON WHF-2 COMM AUDIO 874.40 4.00 19180040 MON RADIO COMM - [NASA STA.40 878.40 4.00 19180040 MON RADIO COMM - [NASA STA.40 878.40 4.00 19180041 AT NIME.CLEARED TO	664.00	685.45	1.46	18	
## 10.40 ## 1.40 ## 1.00 ## 1.	686.40	671.40	8.00	18	25 ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP
870.40 674.40 4.00 1P180038 RADIO COMM-[ATLANTA TOWER, NASA 514.40 881.40 7.00 1B 19 MON VMF-2 COMM AUDIO 874.40 978.40 4.00 1P180040 MON RADIO COMM - [NASA 515, NO. 3 FOR SL.OC-9 3 MI ANEAD WIND 110 110	444 40	471 40	5.00	18	17 COMM VIA VHF-2
874.40 881.40 7.00 1P180040 MON RADIO COMM - [NASA 515, NO. 3 FOR \$1.00-9 3 MI AMEAD.WIND 110 1P180041 AT NINE.CLEARED TO				191	TOWER. MASA
874.40 878.40 4.00 19180040 MON RADIO COMM - [NASA 515, NO. 3 FOR \$1.00-9 3 MI ANEAD.WIND 110	494 44	481 44	7.00	18	
678.40 881.40 3.00 1P160041 AT NIME.CLEARED TO LAND RW SL.				191	[NASA 515, NO. 3 FOR SL.DC-9 3 MI
	678.40	881.40	3.00	191	80041 AT NINE.CLEARED TO LAND RW 8L.

SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
681.40	683.10	1.70	1B 29 ACTUATE COMM 2 PUSH- TO-TALK SW
681.40	663.10	1.70	18 18 COMME VIA VHF-2
881.40	683.10	1.70	1P160037 RADIO COMM - (815, ROGER)
884.00			16BL10 CROSS BAHRR
670.00			180072 CONTROL AIRGRAFT ON Final APP - B(240)
684.00			180011 SET FLAPS TO FLAPS 1
684.00	684.70	0.70	1P 10 MONITOR CALL-OUT
685.00	687.69	2.80	4E 07 SET FLAP CONT LEVER TO FLAPS 1
887.88	888.92	2.23	4E 16 MONITOR FLAP Position impicator
689.92	691.09	1.17	4M OS MON LE FLAPS-IN- Transit Lt on
601.00	692.26	1.17	4H 94 MON LE FLAPS-IN- Transit Lt off
692.26	692.96	0.70	1P1800S8 CALL OUT -[FLAPS 1]
670.00			160080 MON INSTRUMENTS ON FINAL APP - P
685.00			188L11 REACH 190 KCAS
694.00			180017 SET FLAPS TO FLAPS &
695.00	697.69	2.60	4E 09 SET FLAP CONT LEVER TO FLAPS 6
699.00	600.70	0.70	1P160061 CALL OUT -[FLAPS 5]
694.00			160018 FLAP SET PROCEDURE
684.00	694.70	0.70	1P 10 MONITOR CALL-OUT
606.60	698.92	2.23	4E 15 MONITOR FLAP POSITION INDICATOR
698.71	701.21	2.50	4E 16 CHECK FLAP LEVER AND POSITION INDICAGREE
697.60	698.86	1.17	4N OS MON LE FLAPS IN- TRANSIT LT ON
198.86	700.03	1.17	4M 94 MON LE FLAPS-IN- TRANSIT LT OFF
.00			030007 ENGINE INSTRUMENT SCAN
699.00	599.44	0.44	7F 26 MON ENG NO 1 EPR IND
699.00	699.44	0.44	7F 30 MON ENG NO 2 EPR IND 7F 21 MON NO 1 ENG N1 IND
699.44	699.88	0.44	7F 21 MON NO 1 ENG N1 IND 7F 22 MON NO 2 ENG N1 IND
699.44	699.88	0.44	7F 31 MON ENG NO 1 EXH GAS
699.88	700.32	0.44	TEMP IND TEM
700.32	700.32	0.44	TEMP IND
700.32	700.76	0.44	7F 24 MON NO 2 ENG N2 IND
700.76	701.20	0.44	7F 38 MON ENG NO 1 FUEL Flow Indic
700.70	701.20	0.44	7F 34 MON ENG NO 2 FUEL Flow indic
701.20	701.84	0.44	7F 09 MON NO 1 ENG OIL Press indic
701.84	702.08	0.44	7F 10 MON NO 1 ENG OIL Temp indic
701.64	702.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
702.08	702.62	0.44	7F 11 MON NO 1 ENG OIL GTY Indic
702.08	702.52	0.44	7F 19 MON NO 2 ENG OIL GTY INDIC
702.82	702.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic

SINCE MISSIO BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE TASK
702.52	702.98	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC
700.00			160080 MON INSTRUMENTS ON FINAL APP - P
708.00			16BL12 REACH 170 KCA8
*** **			180047 MON INSTRUMENTS ON FINAL APP
710.00	720.00	10.00	3R 82 MONITOR LOCALIZER INDICATOR ON FDI
710.00	720.00	10.00	3S 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON C!
710.00	720.00	10.00	38 63 MON GLIDE SLOPE Att indic on FD:
710.00	720.00	10.00	SA 10 MOMITOR AIRSPEED INDIC
710.00	720.00	10.00	SH OS MON ALTIMETER
710.00	720.00	10.00	3L 02 MON VERTICAL SPEED INDIC
720.00			190047 MOM INSTRUMENTS OM FINAL APP
720.00	730.00	10.00	3R 62 MOMITOR LOCALIZER Indicator om FDI
720.00	730.00	10.00	38 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
720.00	730.00	10.00	3R 63 MON GLIDE SLOPE Att indic on FDI
720.00	730.00	10.00	3A 10 MONITOR AIRSPEED INDIC
720.00	730.00	10.00	SH S6 MON ALTIMETER
720.00	730.00	10.00	3L 02 MON VERTICAL SPEED INDIC
730.00			160047 MONI INSTRUMENTS ON FINAL APP
730.00	740.00	10.00	3A 92 MONITOR LOCALIZER INDICATOR OM FDI
730.00	740.00	10.00	38 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
730.00	740.00	10.00	SR SS MON GLIDE SLOPE ATT INDIC OM FDI
730.00	740.00	10.00	SA 16 MONITOR AIRSPEED INDIC
730.00	740.00	10.00	3H OS MON ALTIMETER
730.00	740.00	10.00	3L 02 MON VERTICAL SPEED Indic
730.00			90EY21 PILOT EXT VIS SCAN
740.00			100000 SET SPEED BRAKES
744.00			180048 MON ADF/RMI-2
744.00	746.26	2.26	SE 26 MON ADF MO.1 POINTER om adf/rmi 2 indic
745.00			180080 MON INSTRUMENTS ON Final APP - P
745.00			16BL13 CROSS REIFF
748.00			180070 SET AUTO BRAKES
748.00	750.62	2.62	4D 43 SET AUTO BRAKE SEL SW TO MED
750.62	750.88	0.26	4D 40 MON AUTO BRAKE 1MOP LT OFF
785.00			ODEYOL C/P EXT VIS SCAM
755.00	760.00	5.00	8A 10 PILOT EXTERNAL VISION SCAN
765.00			100047 MON INSTRUMENTS ON FINAL APP
765.00	775.00	10.00	3R 02 MOMITOR LOCALIZER Indicator on FDI

SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
765.00	775.00	10.00	35 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
765.00	778.00	10.00	SR 6S MON GLIDE SLOPE Att indic on FDI
788.00	775.00	10.00	SA 10 MONITOR AIRSPEED INDIC
765.00	775.00	10.00	3H 06 MON ALTIMETER
785.00	775.00	10.00	3L 02 MON VERTICAL SPEED INDIC
775.00			160047 MON INSTRUMENTS ON FINAL APP
775.00	785.00	10.00	3R 82 MONITOR LOCALIZER INDICATOR ON FD1
775.00	785.00	10.00	28 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
775.00	785.00	10.00	3R 63 MON GLIDE SLOPE Att indic on FDI
775.00	785.00	10.00	3A 10 MONITOR AIRSPEED INDIC
775.00	788.00	10.00	SH OS MON ALTIMETER
775.00	785.00	10.00	3L 02 MON VERTICAL SPEED INDIC
775.00			180080 MON INSTRUMENTS ON FINAL APP - P
■00.00			160058 REPORT RUNWAY IN SIGHT
\$ 00.00	802.00	2.00	SA O1 VIEW RUNWAY AHEAD
802.00	803.00	1.00	1P180074 CALL OUT -[RUNWAY !N SITE]
805.00			00EY21 PILOT EXT VIS SCAN
808.00			160018 FLAP SET PROCEDURE
808.00	808.70	0.70	1P 10 MONITOR CALL-OUT
810.88	812.92	2.23	4E 15 MONITOR FLAP POSITION INDICATOR
812.71	815.21	2.50	4E 16 CHECK FLAP LEVER AND POSITION INDIC AGREE
811.60	\$12.86	1.17	4M OS MON LE FLAPS-IN- Transit LT on
812.86	\$14.03	1.17	4M 04 MON LE FLAPS-IN- Transit Lt off
808.00			180025 SET FLAPS TO FLAPS 15
809.00	811.46	2.46	4E 11 SET FLAP CONT LEVER TO FLAPS 15
813.00	813.70	. 0.70	1P100002 CALL OUT -[FLAPS 16]
812.00			180942 MON ADF/RMI-1
815.00			180069 CROSS RWY 00 QUTER MARKER
815.00	815.72	0.72	3V 11 MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL
817.00	816.80	1.80	1P 13 MONITOR CALL-OUT
818.00			16BL14 CROSS CATTA LOM-GEAR THEM EXTERDED AND 155 KCAS MAINTAINED
815.00			160049 MON RADIO ALTIMETER
815.00	817.00	2.00	3J 01 MON RADIO ALT ALTITUDE INDIC
820.00			180060 EXTEND LANDING GEAR
820.00	823.27	1.27	4D 03 SET LAMPING GEAR LEVER TO DOWN POSITION
823.00	823.64	0.54	4D OS MONITOR MOSE GEAR DOWN AND LOCKED LT ON

		ACTIVITY	EVENT/PROCEDURE
SINCE MISS Beginning	END	TIME	TASK
785.00	775.00	10.00	38 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON C:
765.00	775.00	10.00	SR SS MON ELIDE SLOPE Att indic on fdi
765.00	775.00	10.00	SA 10 MONITOR AIRSPEED INDIC
765.00	775.00	10.00	SH OS MON ALTIMETER
765.00	775.00	10.00	3L 02 MON VERTICAL SPEED INDIC
775.00			160047 MON INSTRUMENTS ON FINAL APP
775.00	765.00	10.00	3R 62 MONITOR LOCALIZER INDICATOR ON FD1
775.00	785.00	10.00	SS 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
775.00	785.00	10.00	SR OS MON OLIDE SLOPE ATT INDIC ON FDI
778.00	785.00	10.00	3A 19 MONITOR AIRSPEED INDIC
775.00	785.00	10.00	SH OG MON ALTIMETER
775.00	785.00	10.00	3L 02 MON YERTICAL SPEED INDIC
775.00			180080 MON INSTRUMENTS ON FINAL APP - P
800.00			160GS8 REPORT RUNWAY IN SIGHT
8 00.00	802.00	2.00	8A O1 VIEW RUNWAY AHEAD
8 02.00	#03.00	1.00	1P160074 CALL OUT -[RUNWAY IN SITE]
805.00			GOEV21 PILOT EXT VIS SCAN
808.00			180018 FLAP SET PROCEDURE
808.00	808.70	0.70	1P 10 MONITOR CALL-OUT
810.69	812.92	2.23	4E 15 MONITOR FLAP Position indicator
812.71	\$15.21	2.50	4E 16 CHECK FLAP LEYER AND POSITION INDIC AGREE
811.89	812.88	1.17	4M 08 MON LE FLAPS-IN- Transit Lt om
812.86	814.03	1.17	4H 04 MON LE FLAPS-IN- Transit Lt off
808.00			180028 SET FLAPS TO FLAPS 15
809.00	811.46	2.46	4E 11 SET FLAP CONT LEVER TO FLAPS 16
813.00	813,70	0.70	1F160062 CALL OUT -[FLAPS 15]
812.00	•		160042 MON ADF/RMI-1
015.00			160059 CROSS RWY 98 OUTER Marker
815.00	815.72	0.72	3V 11 MONITOR OUTER MARKER LT ON AMD AUDIBLE SIGNAL
817 66	818.80	1.80	1P 13 MONITOR CALL-OUT
817.00 815.00	\$1\$. \$ V		16BL14 CROSS CATTA LOM-GEAR THEM EXTEMDED AND 185 KCAS MAINTAINED
***			180049 MON RADIO ALTIMETER
815.00	817 00	2.00	3J 01 MON RADIO ALT
815.00	817.00	•1**	ALTITUDE INDIC 180060 EXTEND LANDING GEAR
820.00	***	4 47	4D GS SET LANDING GEAR
820.00	\$23.27	3.27	LEVER TO DOWN POSITION
823.00	823.54	0.54	4D OS MONITOR NOSE GEAR Down and locked lt

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
823.50	824.04	0.54	4D 09 MONITOR LEFT/RT GEAR Down and locked Lt on
820.00			160080 MON INSTRUMENTS ON FINAL APP - P
845.00			100002 LANDING CHECKLIST
845.00	848.00	1.00	### 8809001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
847.00	847.60	0.60	1P160076 CALL OUT -(RECALL)
847.60	848.00	0.40	1P100077 CALL OUT -(CHECKED)
848.00	849.00	1.00	BB090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
850.00	850.70	0.70	1P180078 CALL OUT -[SPEED Brakes]
851.00	852.30	1.30	1P 02 MONITOR CALL-OUT
052.50	853.50	1.00	88090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
854.50	855.20	0.70	1P160080 CALL OUT -{LANDING GEAR]
855.20	656.20	1.00	1P160081 CALL OUT - (DOWN, Three Green)
856 .20	857.20	1.00	88090001 REAT ITEM OM CHECKLIST OM CONTROL COLUMN PLACARD
888.20	858.60	0.40	1P160082 CALL OUT -[FLAP8]
858.80	859.70	1.10	1P160083 CALL OUT - (FIFTEEN GREEN LIGHT)
861.10	802.20	1.10	1P160084 CALL OUT -{CHECKLIST COMPLETE]
861.10	462.20	1.10	1P 12 MONITOR CALL-OUT
850.00			ODEV21 PILOT EXT VIS SCAN
855.00			160080 MON INSTRUMENTS ON Final APP - P
865.00			ODEYO2 C/P EXT VIS SCAN
865.00	875.00	10.00	\$A 10 PILOT EXTERNAL VISION SCAN
877.00			160047 MOM INSTRUMENTS ON FINAL APP
877.00	887.00	10.00	3R 62 MONITOR LOCALIZER IMPICATOR ON FDI
677.00	887.00	10.00	3\$ 94 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
877.00	887.00	10.00	SR 63 MON GLIDE SLOPE ATT INDIC ON FD:
077.00		10.00	3A 19 MONITOR AIRSPEED INDIC
677.00	887.00	10.00	3H OS MON ALTIMETER
877.00	887.00	10.00	3L 02 MON VERTICAL SPEED INDIC
885.00			ODEV21 PILOT EXT VIS SCAN
888.00			030007 ENGINE INSTRUMENT SCAN
889.00	889.44	0.44	7F 25 MON ENG NO 1 EPR IND
889.00	889.44	0.44	7F 30 MON ENG NO 2 EPR IND
889.44	141.11	0.44	7F 21 MON NO 1 ENG N1 IND
889.44	111.11	0.44	7F 22 MON NO 2 ENG N1 IND 7F 31 MON ENG NO 1 EXH GAS
*** . **	880.32	0.44	TEMP IND
189.88	890.32	0.44	7F 32 MON ENG NO 2 EXN GAS TEMP IND
890.32	890.76	0.44	7F 28 MON NO 1 ENG N2 IND
800.32	880.78	0.44	7F 24 MON NO 2 ENG N2 IND

SINCE MISSION BEGINNING		ACTIVITY TIME	EVENT/PROTASK	
	891.20	0.44	7F	33 MON ENG NO 1 FUEL FLOW INDIC
890.76	#81.20	0.44	7F	\$4 MON ENG NO 2 FUEL FLOW INDIC
891.20	891.64	0.44	7F	09 MON NO 1 ENG OIL PRESS INDIC
891.84	892.08	0.44	7F	10 MON NO 1 ENG OIL TEMP INDIC
891.64	892.08	0.44	7 F	18 MON NO 2 ENG OIL TEMP INDIC
892.08	192.52	0.44	7 F	11 MON NO 1 ENG OIL GTY INDIC
892.08	892.52	0.44	7 F	19 MON NO 2 ENG OIL QTY INDIC
892.52	892.96	0.44	7 F	12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
892.52	892.96	0.44	7F	20 MON NO 2 ENG VIBR AMPLITUDE INDIC
890.00			160080	MON INSTRUMENTS ON FINAL APP - P
895.00			160049	MON RADIO ALTIMETER
885.00	897.00	2.00	3.3	01 MON RADIO ALT ALTITUDE INDIC
100.00			00EY04	C/P EXT VIS SCAN
900.00	920.00	20.00	BA	10 PILOT EXTERNAL VISION SCAN
923.00			160065	DESCEND THRU -DECISION HEIGTH
923.00	925.58	2.58	3R	12 MON DECISION HOT LT ON FDI
925.58	928.38	0.80	1710	GOOSS CALL OUT -{DECISION HEIGHT]
924.00			160066	CONTROL AIRCRAFT THRU TOUCHDOWN
925.00			160064	CROSS RWY 08 MIDDLE MARKER
925.00	926.91	1,91	34	13 MONITOR MIDDLE Marker Annun Lt on And Audible Signal
926.00			18BL15	CROSS MIDDLE MARKER
930.00			00EV02	C/P EXT VIS SCAN
930.00	840.00	10.00	14	10 PILOT EXTERNAL VISION SCAN
930.00			090003	FLIGHT INSTRUMENT SCAN - A
\$40.00			160047	MON INSTRUMENTS ON FINAL APP
940.00	950.00	10.00	38	82 MONITOR LOCALIZER INDICATOR ON FDI
940.00	950.00	10.00	35	94 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
940.00	950.00	10.00	38	43 MON GLIDE SLOPE ATT INDIC ON FDI
140.00	950.00	10.00	3.4	10 MONITOR AIRSPEED INDIC
940.00	950.00	10.00	3H	06 MON ALTIMETER
940.00	950.00	10.00	3L	02 MON VERTICAL SPEED INDIC
941.00			16BL16	CROSS RW THRESHOLD
950.00			00EY02	C/P EXT VIS SCAN
950.00	960.00	10.00	BA	10 PILOT EXTERNAL VISION SCAN
950.00			180088	TOUCHDOWN
950.00			168L17	TOUCHDOWN
950.00			000003	FLIGHT INSTRUMENT SCAN - A

		OF FOOR QU	ALITY
SINCE MIS BEGINNING	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
960.00	35		160047 MON INSTRUMENTS ON FINAL APP
960.00	970.00	10.00	SR 62 MONITOR LOCALIZER INDICATOR ON FDI
860.00	970.00	10.00	38 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
	970.00	10.00	3R 63 MON GLIDE SLOPE ATT INDIC ON FDI
\$00.00	970.00	10.00	3A 10 MONITOR AIRSPEED INDIC
980.00	970.00	10.00	3H 06 MON ALTIMETER
960.00	970.00	10.00	3L 02 MON VERTICAL SPEED INDIC
870.00			ODEYOZ C/P EXT VIS SCAN
\$70.00	**0.00	10.00	SA 10 PILOT EXTERNAL VISION SCAN
970.00			090003 FLIGHT :MS:/RUMENT SCAN - A
884.00			160071 HANDOFF TO GROUND CONTROL -121.8
184.00	980.00	●.00	18 18 MON VMF-2 COMM AUDIO
984.00	987.50	3.60	1P180087 MON RADIO COMM - THASA 818.EXIT RUN- WAY MEXT INTERSEC- TIOM. CONTACT GROUND
987.50	800.00	2.60	1910008 POINT NIMER WHEN CLEAR OF RUNWAY, OVER]
	992.50	2.50	18 . 14 ACT PUSH-TO-TALK SW ON HANDERIP
990.00	992.50	2.50	18 15 COMM VIA VHF-2
.00.00	992.50	2.50	1P160080 RADIO COMM -[618, ROGER. POINT MIMER WHEN CLEAR]
993.00	198.08	8.08	18 OI MON YMF-2L FREQ IND
993.00	995.90	2.90	18 02 SET YMF-2L FREG- WHOLE NO.8
105.41	997.86	1.00	18 03 SET YMF-2L FREQ - Fractions
988.00	999.45	1.45	18 05 SET YHF-2 COMM TFR SW TO LEFT
989.50	1003.00	3.50	18 29 ACTUATE COMM 2 PUSH- TO-TALK SW
989.50	1003.00	3.50	18 16 COMM VIA VHF-2
989.50	1003.00	3.50	1P160090 RADIO COMM - CATLANTA GROUND, THIS IS NASA 518. TAXI TO GATE X, OVER]
1004.00	1007.50	3.50	18 18 MON VHF-2 COMM AUDIO
1004.00	1007.50	3.50	1P160091 MOM RADIO COMM - (MASA 515, ATLANTA RROUND, TAZI TO RAMP VIA MORTMEAST=SOUTH-
1007.50	1006.50	1.00	19160002 WEST TAXIWAY, OVER3
1009.00	1010.70	1.70	18 29 ACTUATE COMM 2 PUSH- TO-TALK SW
1009.00	1010.70	1.70	18 15 COMM VIA VHF-2
1000.00	1010.70	1.70	1P160037 RADIO COMM - [615, ROGER]
100.00			090003 FLIGHT INSTRUMENT Scan - A
1010.00			QUEYOS C/P EXT VIS SCAN
1010.00	1025.00	15.00	8A 10 PILOT EXTERNAL VISION SCAN

MOV10 1986

MISSION SCENARIO REPORT

MISSION - MD-S DATA LINK
LLS AP-BASE LN.
CONFIGURATION - 737 CONVNT FLT DCK
CREWMEMBER - COPILOT

TIME INTERVAL SINCE MISSION BEGINNING		TOTAL ACTIVITY TIME	FLIGHT PMASE EVENT/PROCEDURE TASK
0.00			16DL DATA LINK FFD ILS AP
0.00			16DL01 CROSS LOGEN INTERSEC TION AT 250 KCAS AND 14000 FEET.ATL CENTR MAS PREVIOUSLY INSTR UCTED MASA 515 YO MONITOR ATL APPROACH ON 126.9 AT LOGEN. VMF-2R MAS BEEN SET.
0.00			18DL80 MONITOR ATL APPROACH ON 128.9/VNF-2R
0.00	1.45	1.45	18 OF SET VHF-2 COMM TFR SW TO RIGHT
1.50	3.50	2.00	18 04 ADJ YHF-2 YOLUME
0.00			140003 ALTITUDE CHANGE PROC
10.00			990039 FLIGHT INSTRUMENT SCAM - F
15.00			180013 SET MAY-1 TO RUMWAY 8L LLS -109.3
15.00	21.00	8.00	8B 06 RETREIVE CHARTS
21.00	26.00	s.00	SB180003 REVIEW CMARTS TO DETERMINE RUMWAY OS ILS FREQ AND REG YOR FREQ
26.00	31.08	5.08	SU 01 MON MAY-1 FREQ INDIC
26.00	29.00	\$.00	SU 02 SET MAY-1 FREQ - Whole MO.8
29.00	31.08	2.08	SU 03 SET MAY-1 FREQ - Fractions
31.50	34.40	2.90	1P160059 CALL OUT -(RUNWAY SL ILS IS ON MAY 1)
31.50	33.77	2.27	SM 02 MON YOR POINTER NO.1 ON YOR/AM! 2 INDIC
15.00			ODEVSO PILOT EXT VIS SCAN
38.00			160039 SET ADF-1 TO CATTA -375KC
38.00	41.00	3.00	SD 17 SET ADF NO.1 BFO SW TO OFF
41.00	41.77	0.77	SD 22 MON ADF NO.1 TUNING METER INDIC
41.77	43.75	1.98	SD 01 MONITOR ADF NO 1 FREQ INDIC
43.75	45.73	1.88	SD 02 SELECT ADF NO 1 FREQ IMDIC
45.73	47.23	1.50	1P16006\$ CALL OUT -(CATTA OM ADF-1]
40.00			160040 SET ADF-2 TO FLANC -344
40.00	\$1.69	2.60	SE 17 SEL ADF MO.2 FREQ Band .1940
\$2.00	53.98	1.08	SE 01 MON ADF NO 2 FREG.
\$2.00	53.98	1.00	SE 02 SELECT ADF NO 2 FREQ
\$2.00	\$4.26	2.26	SE 20 MON ADF NO.2 TUNING METER INDIC
54.00	\$8.50	1,50	1P100066 CALL OUT -[FLAMC OH ADF-2]
\$8.00			180038 SET DECISION HEIGTH ON RADIO ALTIMETER

SINCE MISSIC	N START	ACTIVITY Time	EVENT/PR TASK	
64.00			010007	ENGINE (NSTRUMENT SCAN
64.00	84.44	0.44	7F	25 MON ENG NO 1 EPR IND
64.00	64.44	0.44	7.5	30 MON ENG NO 2 EPR IND
84.44	84.88	0.44	77	21 MON NO 1 ENG N1 IND
64.44	64.88	0.44	77	22 MON NO 2 ENG N1 IND
64.88	66.32	0.44	7#	31 MON ENG NO 1 EXH GAS TEMP IND
84.88	45.32	0.44	75	32 MON ENG NO 2 EXH GAS TEMP IND
65.32	65.75	0.44	75	28 MON NO 1 ENG N2 IND
65.32	45.76	0.44	77	24 MON NO 2 ENG N2 IND
85.76	66.20	0.44	7.5	SS MON ENG NO 1 FUEL FLOW INDIC
65.78	66.20	0.44	7F	34 MON ENG NO 2 FUEL FLOW INDIC
66.20	66.64	0.44	7.5	OP MON NO 1 ENG OIL PRESS INDIC
66.64	67.08	0.44	7#	10 MON NO 1 ENG OIL TEMP INDIC
66.64	47.08	0.44	7F	18 MON NO 2 ENG OIL TEMP INDIC
67.08	67.52	0.44	77	11 MON NO 1 ENG OIL GTY
67.08	67.52	0.44	75	19 MON NO 2 ENG OIL GTY INDIC
67.52	67.86	0.44	7F	12 MON NO 1 ENG VISRA- TION AMPLITUDE INDIC
67.52	67.96	0.44	7#	20 MON NO 2 ENG VIBR AMPLITUDE INDIC
88.00			184401	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SMOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT 5000 FT.
70.00			160005	DESCENT AND APPROACH CHECKLIST - 1
70.00	72.00	2.00	19	02 MONITOR CALL-OUT
72.00	77.90	5.90	**	02 RETREIVE CHECKLIST
70.00	83.00	5.00	**	06 FIND CHECKLIST IN HANDBOOK
83.00	85.00	2.00	11	63 READ MEXT ITEM ON CHECKLIST
85 .00	88.00	1.00	1716	
87.00	87.80	0.80	1916	
88.00	80.00	2.00	11	OS READ NEXT ITEM ON CHECKLIST
90.00	81.80	1.00	1910	0046 CALL OUT -[AIR COM- DITIONING AND PRES- SURIZATION]
92.00	84.67	2.67	70	69 MON PASS CAB TEMP CONT SETTING
94.67	96.53	2.02	70	70 MON CONT CAB TEMP CONT SETTING
98.69	97.86	1.17	78	OR MON LDG ALT CHTR
98.00	88.40	0.40	1P180	
70.00			90EV33	PILOT EXT VIS SCAN
100.00	102.00	2.00	160006	DESCENT AND APPROACH CHECKLIST - 2 OS READ NEXT ITEM ON
				CHECKLIST
102.00	102.90	0.90	1916	SWITCHES]
108.50	109.00	0.50	1P 88	OS READ NEXT ITEM ON
100.00	111.00	2.00	••	CHECKLIST

SINCE MISSION BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE TASK
111.00	112.10	1.10	1P190050 CALL OUT-[IMBOARD LAMDING LIGHTS]
112.00	114.20	2.20	7G 17 SET LAMDING LIGHTS SW TO ON
114.20	114.50	0.30	1P160051 CALL OUT -COMI
114.50	116.50	2.00	SB 03 READ MEXT ! TEM ON CHECKLIST
116.50	117.90	1.40	1P180082 CALL OUT -{ALTIMETER AND INSTRUMENTS!
118.00	120.37	2.37	3H Q2 MON CORR BARO ALT INDIC
120.37	123.37	\$.00	3H OS F.O. CHECK CAPT <s ALTIMETER BARO SET AND INDICATED ALTI- TUDE</s
123.40	124.70	1.30	1P180053 CALL OUT-[SET AND GROSSCHECKED]
126.00			180007 DESCENT AND APPROACH CHECKLIST - 3
126.00	128.00	2.00	SS OS READ MEXT ITEM OM CHECKLIST
128.00	129.50	1.50	1P100064 CALL OUT-[EPR AND IAS BUGS]
128.00	131.00	3.00	88010004 RETREIYE FLIGHT Plamming Ref. data Mahual
131.00	136.00	5.00	## ## ## ## ## ## ## ## ## ## ## ## ##
130.00	138.32	2.32	7F 28 SET ENQ NO 1 EPR BUG
136.32	138.32	2.00	7F 27 MON ENG NO 1 EPR BUG
138.32	140.64	2.32	7F 28 SET ENG NO 2 EPR BUG
130.84	140.64	2.00	7F 29 MON ENG NO 2 EPR BUG
141.00	146.00	\$.00	8B180002 DETERMINE LANDING V-REF BUG SET VALUE
148.00	148.57	2.57	3A 07 MON V-REF BUG SETTING
148.00	148.57	2.57	SA OS SET Y-REF BUG
146.00	147.90	1.90	1P160085 CALL OUT -EV-REF 18
181.00	154.00	3.00	XXX KNOTS) 3A 12 F.O. CHECK CAPT (8 V-REF BUG SETTING
154.00	155.60	1.60	1P1600S6 CALL OUT -[BUGS SET
188.60	157.60	2.00	AND CROSS-CHECKED) SS 03 READ NEXT ITEM ON
		•	CHECKLIST
155.60	156.90	1.30	1P160057 CALL OUT -[CHECKLIST COMPLETED]
157.60	180.60	3.00	SB OS STOW CHECKLIST
160.60	162.60	2.00	SBO10006 STOW FLIGHT PLANNING REF. DATA MANUAL
130.00			090019 FLIGHT INSTRUMENT SCAN - D
165.00			030007 ENGINE INSTRUMENT SCAN
185.00	165.44	0.44	7F 25 MON ENG NO 1 EPR IND
185.00	188.44	0.44	7F 30 MON ENG NO 2 EPR IND
185.44	166.88	0.44	7F 21 MON NO 1 ENG N1 IND
165.44	165.68	0.44	7F 22 MON NO 2 ENQ N1 IND
165.88	166.32	0.44	7F 31 MON ENG NO 1 EXH QAS Temp ind
165.88	168.32	0.44	7F 32 MOM ENG MO 2 EXH GAS TEMP IND
168.32	166.76	0.44	7F 23 MON NO 1 ENG N2 IND
166.32	166.76	0.44	7F 24 MON NO 2 ENG N2 IND
188.76	167.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic

SINCE MISSION STA	ART ACTIVITY	EVENT/PROCEDURE TASK
188.78 187.		7F 34 MON ENG NO 2 FUEL Flow Indic
187.20 187.	.04 0.44	7F 98 MON NO 1 ENG OIL Press indic
187.64 168.	.08 0.44	7F 10 MON NO 1 ENG OIL Temp Indic
187.84 188.	.08 0.44	7F 18 MON NO 2 ENG OIL Temp indic
168.08 168.	.52 0.44	7F 11 MON NO 1 ENG OIL QTY INDIC
168.08 188.	.52 0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
168.52 169.	.90 0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
168.52 160.	.96 0.44	7F 20 MON NO 2 ENG VIER Amplitude indic
172.00		ODEYOS C/P EXT YIS SCAN
172.00 187.	.00 15.00	8A 10 PILOT EXTERNAL Vision Scan
195.00		180048 MON ADF/RMI-2
185.00 187.	.20 2.26	SE 28 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
195.00		18DL91 HAMDOFF TO ATL FINAL APPROACH CONTROLLER VECTOR TO DOWNWIND
185.00 196.	.80 1.80	1016XX01 MON IMFORMATION MANAGEMENT ATENSON
198.60 198.	.60 2.00	1D:GXX02 MON INFORMATION MANAGEMENT D:SPLAY [MODE-5 UPLINK PNDG] AMBER
196,60 200.	.40 1.80	1X100001 LIME SELECT (ATC Uplinks pending)
200.40 210.	.40 10.00	1D16XX91 READ -TURN RT HDG 270,DESCHD AND MAIN- TAIN 6000 FT,MONITOR ATL APPR ON 127.25
210.40 212.	.20 1.80	1X180041 LIME SELECT Ewilcoj
200.00		140007 HEADING CHANGE PROC.
200.00		168L02 BEGIN TURN TO DOWN- WIND LEG
210.00		188LO3 DESCEND THRU 11000.
215.00		18AA01 ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 280 KCAS USING PITCH CWS MODE OF A.P. PILOT MAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHAR AT 8000 FT.
219.00		160092 TUNE ATL APPROACH OM 127.25
219.00 223.	.88 4.88	18 01 MON VHF-2L FREQ IND
219.00 221.	.00 2.00	1B 02 SET YMF-2L FREQ- WHOLE NO.8
221.88 223.	.00 1.00	13 93 SET VMF-2L FREQ - Fractions
226.00		16DL83 MONITOR ATL APPROACH ON 127.28/YMF-2L
226.00 227.	.49 1.49	18 OS SET VHF-2 COMM TFR SW TO LEFT
227.50 229.	.50 2.00	18 04 ADJ YMF-2 VOLUME
220.00		090017 FLIGHT IMSTRUMENT Scan - C
240.00		ODEVOS C/P EXT VIS SCAN
240.00 285.	.00 48.00	8A 12 PILOT EXTERNAL VISION SCAN

SINCE MISSIG SEGINNING	N START END	ACTIVITY TIME	EVENT/PI	
250.00			090039	FLIGHT INSTRUMENT SCAN - F
280.00			030007	ENGINE INSTRUMENT SCAN
288.00	288.44	9.44	7 F	25 MON ENG NO 1 EPR IND
288.00	288.44	0.44	7 F	SO MON ENG NO 2 EPR IND
288.44	288.88	0.44	7 F	21 MON NO 1 ENG N1 IND
280.44	288.88	0.44	7F	22 MON NO 2 ENG N1 IND
288.88	289.32	0.44	7 F	31 MON ENG NO 1 EXH GAS TEMP IND
288.80	200.32	0.44	7.	32 MON ENG NO 2 EXH GAS TEMP IND
289.32	289.76	0.44	7F	23 MON NO 1 ENG N2 IND
280.32	289.76	0.44	7F	24 MON NO 2 ENG N2 IND
260.76	290.20	0.44	7 F	33 MON ENG NO 1 FUEL FLOW INDIC
289.76	280.20	0.44	7#	14 MON ENG NO 2 FUEL FLOW INDIC
290.20	290.64	0.44	7 F	09 MON NO 1 ENG OIL PRESS INDIC
290.64	291.08	0.44	7 F	10 MON NO 1 ENG OIL TEMP INDIC
290.64	291.08	0.44	78	18 MON NO 2 ENG OIL TEMP INDIC
291.08	291.52	0.44	78	11 MON NO 1 ENG OIL GTY INDIC
281.08	291.52	0.44	7 F	19 MON NO 2 ENG OIL GTY INDIC
281.52	201.00	0.44	76	12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
201.52	291.96	0.44	7F	20 MON NO 2 ENG VIBR AMPLITUDE INDIC
285.00			00EY09	C/P EXT VIS SCAN
285.00	340.00	45.00	84	12 PILOT EXTERNAL VISION SCAN
330.00			164401	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 260 KCAS USING PITCH CWS MODE OF A.P. PILOT MAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING SANRR AT 5000 FT.
340.00			00EV04	C/P EXT VIS SCAN
340.00	360.00	20.00	**	10 PILOT EXTERNAL VIBION SCAN
363.00			010007	ENGINE INSTRUMENT SCAN
363.00	363.44	0.44	7 F	25 MON ENG NO 1 EPR IND
363.00	363.44	0.44	7F	30 MON ENG NO 2 EPR IND
363.44	363.86	0.44	7.5	21 MON NO 1 ENG N1 IND
363.44	363.88	0.44	7F	22 MON NO 2 ENG N1 IND
363.88	364.32	0.44	75	31 MON ENG NO 1 EXH GAS TEMP IND
303.88	364.32	0.44	7 F	32 MON ENG NO 2 EXH GAS TEMP IND
364.32	\$64.76	0.44	75	23 MON NO 1 ENG N2 IND
364.32	364.76	0.44	7#	24 MON NO 2 ENG N2 IND
364.76	365.20	0.44	7 F	33 MON ENG NO 1 FUEL FLOW INDIC
364.76	365.20	0,44	7F	34 MON ENG NO 2 FUEL FLOW INDIC
385.20	365.54	0.44	7 F	09 MON NO 1 ENG OIL PRESS INDIC
385.64	366.08	0.44	78	10 MON NO 1 ENG OIL TEMP INDIC

SINCE MISSIC BEGINNING	N START END	ACTIVITY Time		EVENT/PROCED TASK	URE
385.64	366.08	0.44		7F 18	MON NO 2 ENG OIL TEMP INDIC
366.08	368.52	0.44		7F 11	
368.08	366.52	0.44	ORIGINAL PAGE IS	7F 19	MON NO 2 ENG OIL GTY INDIC
366.52	365.96	0.44	OF POOR QUALITY	7F 12	MON NO 1 ENG VISRA- TION AMPLITUDE INDIC
366.52	306.96	0.44		7F 20	
370.00				168L04 DES	CEMD THRU 8600.
370.00				16DL94 ALT	ITUDE STEP DOWN
370.00	371.60	1.60		1016XX61	MON INFORMATION MANAGEMENT ATENSON
371.80	373.60	2.00		1016XX02	MON INFORMATION MANAGEMENT DISPLAY [MODE-8 UPLIMK PNDG] AMBER
373.80	375.40	1.80		1X160001	LIME SELECT (ATC UPLINKS PENDING)
375.40	\$79.40	4.00		1016XX94	READ -DESCEND AND MAINTAIN 5000 FT
379.40	381.20	1.00		12180041	LIME SELECT
370.00					GHT INSTRUMENT N - F
385.00				00EY08 C/P	EXT VIS SCAN
385.00	425.00	40.00		8A 11	PILOT EXTERNAL VISION SCAN
430.00				030007 ENG SCA	INE INSTRUMENT M
430.00	430.44	0.44		77 25	MON ENG NO 1 EPR IND
430.00	430.44	0.44		7F 30	MON ENG NO 2 EPR IND
430.44	430.88	0.44		7F 21	MON NO 1 ENG N1 IND
430.44	430.88	0.44		7F 22	MON NO 2 ENG N1 1MD
430.88	431.32	0.44		7F \$1	MON ENG NO 1 EXH GAS TEMP IND
430.88	431.32	0.44		7F 32	MON ENG NO 2 EXH GAS TEMP IND
431.32	431.76	0.44		7F 28	MON NO 1 ENG M2 IND
431.32	431.76	0.44		7F 24	MON NO 2 ENG N2 IND
431.76	432.20	0.44		7F 88	FLOW INDIC
431.76	432.20	0.44		7F 34	FLOW INDIC
432.20	432.84	0.44		7F 0\$	MON NO 1 ENG OIL PRESS INDIC
432.64	433.08	0.44		7F 10	TEMP INDIC
432.64	433.08	0.44		7F 18	MON NO 2 ENG OIL TEMP INDIC
433.08	433.52	0.44		7 F 11	MON NO 1 ENG OIL GTY
433.00	433.52	0.44		7F 19	MON NO 2 ENG OIL QTY INDIC
433.52	433.96	0.44		7F 12	MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
433.52	433.96	0.44		7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC
450.00				16DL02 REC TER	EIVE ATL ETIS MINAL INFORMATION
450.00	451.80	1.00		11160004	LIME SELECT (ETIS REQUESTS)
451.80	453.80	2.00		1016XX33	READ [ETIS REQUEST FOR KATL]

SINCE MISSION BEGINNING	I START END	ACTIVITY TIME	EVENT/PROCEDU TASK	JRE
	455.60	1.80	1X160048	LIME SELECT [FULL ETIS REPORT]
458.60	460.20	1.60	1016XX01	MON INFORMATION MANAGEMENT ATENSON
460.20	462.20	2.00	1016XX08	MON VISUAL ALERT DSP [MODE-S UPLINK PNDQ] INDENTED BLUE
462.20	464.00	1.00	1X160001	LINE SELECT [ATC UPLIMES PENDING]
464.00	474.00	10.00	1016XX31	READ-ETIS REPORT FOR ATL AT XXXXZ. SKY 25 SCT/40 BKN. VSB 16. WIND 110/10/Q17.
474.00	479.00	8.00	1016XX32	TEMP 59. ALT 2984. Apr rwosl and rwosr Simult Parallel ils
479.00	480.80	1.80	1X180047	LIME SELECT [PRINT MESSAGE]
460.00			168L05 CRO	ES FT NDS
470.00			PITC 800 250 CWS PILC YMA PERM FOR	UST THRUST AND CH TO MAINTAIN A FPM DESCENT AT RCAS USING PITCH MODE OF A.P. OT HAS DETERMINED T THIS SHOULD MIT DECEL TO 210 CROSSING SAHRR 6000 FT.
480.00			180003 SET	ALTIMETER BARO TIMO TO 20.84
480.00	482.00	2.00	17160043	CALL OUT-[DESCENT AND APPROACH CHECK- LIST]
484.00			140032 ALT PRO	IMETER SARO SET C.
484.00	488.85	2.65	8H 04	MONITOR ALTIMETER BARO SETTING INDIC
484.00	406.65	2.85	3H 03	SET ALTIMETER BARD SETTING CONTROL
490.00				GHT INSTRUMENT N - C
\$13.00			030007 ENG \$CA	INE INSTRUMENT N
\$13.00	\$13.44	0.44	7F 25	
\$13.00	513.44	0.44	7F \$0	
513.44	\$13.88	0.44	7F 21	
513.44	\$13.88	0.44	7F 22 7F 31	
513.88	514.32	0.44		TEMP IND
513.68	514.32	0.44	7F \$2	TEMP IND
514.32	514.78	0.44	77 28	
514.32	814.76	0.44	7F 24	
514.76	\$15.20	0.44	7F \$3	FLOW INDIC
\$14.78	\$15.20	0.44	7F 84	MON ENG NO 2 FUEL FLOW INDIC
\$15.20	\$15.64	0.44	7F 00	MON NO 1 ENG OIL PRESS INDIC
\$15.64	\$16.08	0.44	7F 10	MON NO 1 ENG OIL TEMP INDIC
515.64	\$16.08	0.44	7F 18	MON NO 2 ENG OIL TEMP INDIC
\$16.08	\$10.52	0.44	7F 11	MON NO 1 ENG OIL GTY
516.08	\$16.52	0.44	7F 19	MOK NO 2 ENG OIL
\$16.52	\$16.96	0.44	7F 12	MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC

SINCE MISSI BEGINNING	ON START	ACTIVITY TIME	EVENT/PROCEDURE TASK
518.52	\$10.96	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC
519.00			160041 MON YOR/RMI-1
520.00			16DLSS YECTOR FOR BASE LEG
\$20.00	521.60	1.60	1016XX01 MON IMFORMATION MANAGEMENT ATENSON
521.80	523.60	2.00	1D16XXOZ MON INFORMATION MANAGEMENT DISPLAY (MODE-8 UPLINK PNDG) AMBER
523.60	\$25.40	1.80	1X160001 LIME SELECT (ATC UPLIMES PENDING)
\$25.40	528.40	\$.00	1D16XX96 READ -TURM LEFT Meading 160
\$28.40	530.20	1.00	1X160041 LIME SELECT (WILCO)
523.00			140007 HEADING CHANGE PROC.
523.00			16BLO6 SEGIN TURN TO BASE
\$33.00			140007 HEADING CHANGE PROC.
\$40.00			140023 REPORT 1000 FT TO LEVEL OFF
\$40.00	542.13	2.13	3H 92 MON CORR BARO ALT INDIC
542.00	\$43.70	1.70	1P140046 CALL OUT -(1000 FEET TO LEVEL OFF)
543.00			140007 HEADING CHANGE PROC.
550.00			OCEYOS C/P EXT VIS SCAN
\$50.00	\$65.00	15.00	SA 10 PILOT EXTERNAL Vision Scan
885.00			090003 FLIGHT INSTRUMENT SCAN — A
565.00			160041 MON VOR/RMI-1
589.00			160042 MON ADF/RMI-1
570.00			16DL96 VECTOR TO FINAL APPR
570.00	\$71.60	1.60	1D16XX91 MON INFORMATION MANAGEMENT ATEMSON
571.60	673.60	2.00	1D16XX02 MON INFORMATION Management Display (Mode-8 uplink Phdg] Amber
573.60	575.40	1.80	1X100001 LIME SELECT [ATC UPLINKS PENDING]
575.40	584.40	9.00	1D16XX98 READ -12 NM FROM CM Turm LT HDG 110.MAIN TAIN 5000 UNTIL XING BAHRR.
584.40	501.40	7.00	1918ZZ97 CLEARED FOR ILS SL Appr. Monitor Tower On 119.5 at Sahrr
591.40	\$93.20	1.80	1X100041 LINE SELECT (WILCO)
575.00			140007 HEADING CHANGE PROC.
\$75.00			188L07 TURN TO INTERCEPT Final Appr. Course
585.00			140007 HEADING CHANGE PROC.
507.00			160034 TUNE ATLANTA TOWER -118.8
597.00	601.88	4.80	1B 07 MON VNF-2R FREQ IND
597.00	699.88	2.88	18 OB SET VHF-2R FREG - WHOLE NO. 8
590.80	801.86	1.98	1B 00 SET VMF-2R FREQ - FRACTIONS
600.00			180079 MON INSTRUMENTS ON FINAL APP - P
807.00			180947 MON INSTRUMENTS ON FINAL APP

SINCE MISSIC BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE Task
607.00	\$17.00	10.00	3R 62 MONITOR LOCALIZER INDICATOR ON FDI
607.00	617.00	10.00	3S 04 MOM A/C POSITION RELATIVE TO SELECTED COURSE ON CI
607.00	617.00	10.00	3R 63 MON GLIDE SLOPE ATT INDIC ON FDI
407.00	617.00	10.00	3A 10 MONITOR AIRSPEED INDIC
807.00	617.00	10.00	3H 06 MON ALTIMETER
607.00	617.00	10.00	3L 92 MON VERTICAL SPEED INDIC
6 10.00			18AA02 SELECT ALT HOLD AND AUTO APP FD MODES TO CAPTURE LOCALIZER PRIOR TO BAMRR, LEVEL AT 8000 FT
610.00			140003 ALTITUDE CHANGE PROC
810.00			188LOS LEVEL OFF AT 5000 FT Begin Decel From 250 To 210 Kgas
817.00			180047 MON INSTRUMENTS ON FINAL APP
617.00	627.00	10.00	SR 82 MONITOR LOCALIZER INDICATOR ON FDI
617.00	827.00	10.00	35 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
617.00	627.00	10.00	3R 63 MON GLIDE SLOPE ATT INDIC ON FD!
617.00	627.00	10.00	3A 10 MOMITOR AIRSPEED EMDIC
817.00	827.00	10.00	3H 06 MOM ALTIMETER
817.00	627.00	10.00	SL OZ MON VERTICAL SPEED Indic
620.00			18AAO3 ADJUST THRUST TO Decel to 210 kgas Before Bahrr
623.00			160037 CAPTURE ILS LOC BEGIN TURN TO HDG 090
623.00	625.58	2.58	3R S9 MON INITIAL MOVEMENT OF ROLL COMMAND BAR ON FD1
625.60	626.90	1.30	1P100007 CALL OUT -(LOCALIZER ALIVE)
629.50	631.50	2.00	1P 02 MONITOR CALL-OUT
627.00			180047 MON INSTRUMENTS ON FINAL APP
627.00	637.00	10.00	3R 02 MONITOR LOCALIZER INDICATOR ON FDI
827.00	637.00	10.00	3\$ 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON C!
627.00	637.00	10.00	SR 43 MON GLIDE SLOPE ATT INDIC ON FDI
627.00	637.00	10.00	3A 10 MONITOR AIRSPEED INDIC
827.00	637.00	10.00	3H 06 MON ALTIMETER
627.00	637.00	10.00	3L 02 MON VERTICAL SPEED Indic
637.00			180047 MON INSTRUMENTS ON FINAL APP
637.00	647.00	10.00	3R 02 MONITOR LOCALIZER INDICATOR ON FDI
637.00	647.00	10.00	38 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
637.00	647.00	10.00	3R G3 MON GLIDE SLOPE ATT INDIC ON FD!
637.00	847.00	10.00	3A 10 MONITOR AIRSPEED INDIC

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	The state of	EVENT/PROC TASK	EDURE
637.00	647.00	10.00		8 H	06 MON ALTIMETER
637.00	647.00	10.00		\$L	02 MON VERTICAL SPEED
643.00				180045 A	NHUNCIATOR RECALL
643.00	645.28	2.20		7A	28 ACTUATE ANNUN PHL RECALL SW
645.28	645.81	0.53		7A	SS MON ALL ANNUM LTS
845.00					ONTROL A/C ON F!NAL PPROACH - C (8)
848.00					ON INSTRUMENTS ON INAL APP - P
647.00					ON INSTRUMENTS ON INAL APP
647.00	657.00	10.00		#R	62 MONITOR LOCALIZER INDICATOR ON FDI
447.00	657.00	10.00		15	04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
847.00	857.00	10.00		\$R	es MON GLIDE SLOPE ATT INDIC ON FDI
647.00	667.00	10.00		**	10 MONITOR AIRSPEED INDIC
647.00	857.00	10.00		3 H	06 MON ALTIMETER
647.00	857.00	10.00		\$L	02 MON VERTICAL SPEED INDIC
650.00				160073 C	ONTROL A/C ON FINAL PPROACH - C (5)
655.00				160041 M	ON VOR/AMI-1
657.00				160042 M	ON ADF/RMI-1
657.00				160048 M	ON ADF/RMI-2
657.00	659.26	2.26		6E	26 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
00 .00				168L09 R	EACH 210 KCAS
880.00				100054 A	CQUIRE &LIDESLOPE
660.00	062.50	2.44		38	SO MON INITIAL MOVEMENT OF GLIDE SLOPE COMMAND BAR ON FDI
862.60	863.60	1.00		191600	71 CALL OUT -[QLIDE SLOPE ALIVE]
664.00				16DL80 M	ONITOR ATL TOWER ON 19.5/VHF-ZR
•64.00	105.41	1.46		18	66 SET VHF-2 COMM TFR SW TO RIGHT
865.50	667.50	1.00		18	04 ADJ YHF-2 YOLUME
444.00				165110 C	ROSS BAHRR
670.00				160L61 L	ANDING CLEARANCE
670.00	671.60	1.80		1016XX	61 MON INFORMATION MANAGEMENT ATENSON
671.60	673.60	2.00		1 016 XX	02 MON INFORMATION MANAGEMENT DISPLAY [MODE-8 UPLINK PNDG] AMBER
673.80	675.40	1.80		1X1600	01 LIME SELECT (ATC UPLIMES PENDING)
675.40	685.40	10.00		1D16XX	40 READ -NO.S FOR SL. DC-9 3 MM AMEAD.WIND 110 AT 9. CLEARED TO LAND RW SL.
685.40	687.20	1.80		121600	41 LINE SELECT [WILCO]
670.00				160072 C	ONTROL AIRCRAFT ON INAL APP - B(240)
684.00				160011 \$	ET FLAPS TO FLAPS 1
884.00	684.70	0.70		19	10 MONITOR CALL-OUT

SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE Task
685.00	687.69	2.49	4E 07 SET FLAP CONT LEVER TO FLAPS 1
687.69	689.92	2.23	4E 15 MONITOR FLAP Position indicator
689.92	891.09	1.17	4M 03 MON LE FLAPS-IN- Transit Lt on
601.00	892.28	1.17	4M 04 MON LE FLAPS-IN- TRANSIT LT OFF
692.26	692.96	0.70	1P160088 CALL OUT -[FLAPS 1]
670.00			180080 MON INSTRUMENTS ON FINAL APP - P
886.00			10BL11 REACH 100 KGAS
094.00			180817 SET PLAPS TO PLAPS \$
895.00	697.60	2.60	4E 00 SET FLAP CONT LEVER TO FLAPS 5
688.00	699.70	0.70	1P180081 CALL OUT -[FLAPS \$]
684.00			160018 FLAP SET PROCEDURE
694.00	684.70	0.70	1P 10 MONITOR CALL-OUT
494.49	698.92	2.23	4E 18 MONITOR FLAP Position indicator
688.71	701.21	2.50	4E 16 CHECK FLAP LEVER AND Position indic agree
697.69	494.86	1.17	4N 03 MON LE FLAPS-IN- Transit Lt om
696.88	700.03	1.17	4M 04 MON LE FLAPS-IN- Transit Lt off
899.00			030007 EMGINE INSTRUMENT Scan
699.00	699.44	0.44	7F 26 MON ENG NO 1 EPR IND
888.00	600.44	0.44	7F 80 MON ENG NO 2 EPR IND
699.44	600.00	0.44	7F 21 MON NO 1 ENG N1 IND
699.44	689.88	0.44	7F 22 MON NO 2 ENG N1 IND
699.88	700.32	0.44	7F 31 MON ENG NO 1 EIN GAS TEMP IND
409.88	700.32	0.44	7F 32 MOH ENG NO 2 EXH GAS Temp ind
700.32	700.78	0.44	7F 28 MON NO 1 ENG N2 IND
700.32	700.76	0.44	7F 24 MON NO 2 ENG N2 IND
700.78	701.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic
700.76	701.20	0.44	7F 34 MON ENG MO 2 FUEL Flow Indic
701.20	701.84	0.44	7F 00 MON MO 1 ENG OIL Press indic
701.84	702.06	0.44	7F 10 MON NO 1 ENG OIL Temp indic
701.64	702.08	0.44	7F 18 MON NO 2 ENG OIL Temp Indic
702.00	702.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
702.08	702.52	0.44	7F 19 MON NO 2 ENG OIL GTY INDIC
702.52	702.96	0.44	7F 12 MON NO 1 EMQ VIBRA- Tion amplitude indic
702.52	702.96	0.44	7F 20 MON NO 2 ENG VISR Amplitude indic
700.00			160080 MON INSTRUMENTS ON FINAL APP - P
706.00			168L12 REACH 170 KGAS
710.00			160047 MON INSTRUMENTS ON FINAL APP
710.00	720.00	10.00	3R 62 MONITOR LOCALIZER INDICATOR ON FDI
710.00	720.00	10.00	38 04 MON A/C POSITION Relative to selected Course on C:

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK	
710.00	720.00	10.00	SR 63 MON GL ATT INC	IDE SLOPE
710.00	720.00	10.00	JA 10 MONITO INDIC	R AIRSPEED
710.00	720.00	10.00	SH OS MON AL	TIMETER
710.00	720.00	10.00	3L 02 MON VE INDIC	RTICAL SPEED
720.00			160047 MON INSTRUME FINAL APP	NTS ON
720.00	730.00	10.00	SR 92 MONITO INDIGAT	N LOCALIZER
720.00	730.00	10.00	48 04 MON A/ RELATIV COURSE	C POSITION E TO SELECTED ON CI
720.00	730.00	10.00	3R 63 MON QL ATT IND	IDE SLOPE
720.00	730.00	10.00	3A 10 MONITO Indic	R AIRSPEED
720.00	730.00	10.00	SH OS MON AL	TIMETER
720.00	730.00	10.00	3L 92 MON VE INDIC	RTICAL SPEED
730.00			160047 MON INSTRUME FINAL APP	NTS ON
730.00	740.00	10.00	3R 62 MONITO Indicat	R LOCALIZER OR ON FDI
730.00	740.00	10.00		C POSITION E TO SELECTED ON CI
730.00	740.00	10.00		IDE SLOPE IC ON FDI
730.00	740.00	10.00	3A 10 MONITO Indic	R AIRSPEED
730.00	740.00	10.00	SH 06 MON AL	TIMETER
730.00	740.00	10.00	3L 02 MON VE INDIC	ATICAL SPEED
730.00			ODEY21 PILOT EXT VI	S SCAN
740.00	•		180069 SET SPEED BR	AKE\$
744.00			160048 MON ADF/RMI-	2
744.00	748.26	2.20	SE 26 MON AD ON ADF/	F NO.1 POINTER
745.00			160080 MOM INSTRUM Final APP -	
745.00			168L13 CROSS REIFF	
748.00			180070 SET AUTO BRA	KES
748.00	780.82	2.62	4D 43 SET AU SW TO M	TO BRAKE SEL ED
760.62	750.08	0.26	4B 40 MON AU LT OFF	TO BRAKE INOP
755.00			ODEVO1 C/P EXT VIS	SCAN
755.00	760.00	5.00	SA 10 PILOT Vision	EXTERNAL SGAN
765.00			160047 MON INSTRUME FINAL APP	NTS ON
765.00	778.00	10.00		R LOCALIZER DR ON FDI
765.00	775.00	10.00	38 04 MON A/ RELATIV COURSE	C POSITION E TO SELECTED ON CI
765.00	775.00	10.00	SR 63 MON QL Att imd	IDE SLOPE IC ON FDI
785.00	775.00	10.00	SA 10 MONITO Indic	A AIRSPEED
785.00	775.00	10.00	SH OS MON AL	TIMETER
766.00	775.00	10.00	INDIC ST 03 NOW AE	RTICAL SPEED
775.00			160047 MON INSTRUME FINAL APP	NTS ON

SINCE MISSION BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE Task
775.00	785.00	10.00	3R 62 MONITOR LOCALIZER INDICATOR ON FDI
775.00	785.00	10.00	SS 04 MOM A/C POSITION RELATIVE TO SELECTED COURSE ON C!
775.00	765.00	10.00	SR 63 MON GLIDE SLOPE ATT INDIC ON FDI
775.00	785.00	10.00	3A 10 MONITOR AIRSPEED INDIC
775.00	785.00	10.00	SH OS MON ALTIMETER
775.00	785.00	10.00	SL 02 MON VERTIGAL SPEED INDIC
775.00			180080 MON INSTRUMENTS ON FINAL APP - P
800.00			180068 REPORT RUNWAY IN
800.00	802.00	2.00	SA O1 VIEW RUNWAY AHEAD
802.00	803.00	1.00	1P190074 CALL OUT -(RUNWAY IN SITE)
# 05.00			GOEV21 PILOT EXT VIS SCAN
808.00			180018 FLAP SET PROCEDURE
.00	808.70	0.70	1P 18 MONITOR CALL-OUT
610.69	812.92	2.23	4E 15 MONITOR FLAP Position indicator
812.71	815.21	2.50	4E 16 CHECK FLAP LEVER AND Position indic agree
811.69	812.86	1.17	4M 03 MON LE FLAPS-IN- Transit Lt om
812.86	814.03	1.17	4H 04 MON LE FLAPS-IN- Transit Lt off
808.00			160025 SET FLAPS TO FLAPS 15
809.00	811.46	2.46	4E 11 SET FLAP CONT LEVER TO FLAPS 15
813.00	813.70	0.70	1P180082 CALL OUT -[FLAP8 18]
812.00			180042 MON ADF/RMI-1
815.00			180089 CROSS RWY 06 OUTER Marker
\$15.00	815.72	0.72	37 11 MONITOR OUTER MARKER LT om and audible Stemal
817.00	\$18.80	1.00	1P 13 MONITOR CALL-OUT
815.00			16BL14 CROSS CATTA LOM-GEAR THEM EXTENDED AND 185 KGAS MAINTAINED
E15.00			160040 MON RADIO ALTIMETER
818.00	817.00	2.00	SJ Of MON RADIO ALT Altitude indic
820.00			160060 EXTEND LANDING GEAR
820.00	823.27	\$.27	40 03 SET LANDING GEAR LEVER TO DOWN POSITION
823.00	823.54	0.54	4D OS MONITOR MOSE GEAR Down and locked Lt On
823.50	824.04	0.54	4D 09 MONITOR LEFT/RT GEAR DOWN AND LOCKED LT ON
620.00			180080 MON INSTRUMENTS ON FINAL APP - P
845.00			180082 LANDING CHECKLIST
845.00	846.00	1.00	98090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
847.00	847.60	0.60	1P180078 CALL OUT -[RECALL]
847.80	848.00	0.40	1P160077 CALL OUT -[CHECKED]

SINCE MISSI BEGINNING	ON START	ACTIVITY TIME	EVENT/PROCEDURE TASK
848.00	849.00	1.00	88090001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
850.00	850.70	0.70	1P180078 CALL OUT -[SPEED BRAKES]
851.00	852.30	1.30	1P 02 MONITOR CALL-OUT
852.50	853.50	1.00	88090001 READ MEXT LITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
884.50	\$56.20	0.70	1P160000 CALL OUT -[LAMDING GEAR]
855.20	856.20	1.00	19160081 CALL OUT - [DOWN, THREE GREEN]
856.20	887.20	1.00	88090001 READ HEXT ITEM ON Checklist om Control Column Placard
858.20	858.80	0.40	1P160082 CALL OUT -[FLAP8]
858.60	859.70	1.10	1P160083 CALL OUT -{FIFTEEN GREEN LIGHT]
861,10	862.20	1.10	1P180084 CALL OUT -[CHECKLIST COMPLETE]
861.10	862.20	1.10	1P 12 MONITOR CALL-OUT
850.00			OCEV21 PILOT EXT YIS SCAN
855.00			160080 MON INSTRUMENTS ON FINAL APP - P
865.00			ODEVOZ C/P EXT VIS SCAN
865.00	875.00	10.00	SA 10 PILOT EXTERNAL Vision Scan
877.00			160047 MON INSTRUMENTS ON FINAL APP
877.00	887.00	10.00	3R 62 MONITOR LOCALIZER INDICATOR ON FD:
877.00	887.00	10.00	88 04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON C!
877.00	887.00	10.00	3R 63 MON GLIDE SLOPE ATT INDIC ON FDI
877.00	887.00	10.00	SA 10 MONITOR AIRSPEED INDIC
877.00	887.00	10.00	SM 06 MON ALTIMETER
877.00	887.00	10.00	3L OZ MON VERTICAL SPEED Indic
885.00			GOEY21 PILOT EXT YIS SCAN
880.00			930007 ENGINE INSTRUMENT SCAM
888.00	889.44	0.44	77 25 MON ENG NO 1 EPR IND
	889.44	0.44	7F SO MON ENG NO 2 EPR IND
100.44		0.44	7F 21 MON NO 1 ENG N1 IND
888.44	180.88	0.44	7F 22 MON NO 2 ENG N1 IND
101.11	890.32	0.44	7F 31 MOK ENG NO 1 EXH GAS TEMP IND
889.88	880.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
890.32	890.78	0.44	7F 28 MON NO 1 ENG M2 IND
890.32	880.76	0.44	7F 24 MON NO 2 ENG N2 IND
890.76	891.20	0.44	7F 33 MION EME NO 1 FUEL FLOW INDIC
890.76	891.20	0.44	7F 34 MON ENG NO 2 FUEL FLOW INDIC
891.20	881.84	0.44	7F 09 MON MO 1 ENG OIL Press indic
881.64	882.08	0.44	7F 10 MON HO 1 ENG OIL TEMP INDIC
891.64	892.08	0.44	7F 18 MON NO 2 ENG OIL TEMP INDIC
692.08	882.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC

SINCE MISSIO		CTIVITY	EVENT/PR	
BEGINNING 892.08	END T	0.44	7 F	19 MON NO 2 ENG OIL GTY INDIC
192.52	892.96	0.44	78	12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
892.52	892.96	0.44	7#	20 MON NO 2 ENG VIBR
890.00			160080	MON INSTRUMENTS ON FINAL APP - P
895.00			160048	MON RADIO ALTIMETER
895.00	807.00	2.00	**	et mon radio alt Altitude indic
\$00.00			00EY04	C/P EXT VIS SCAN
900.00	920.00	10.00	AS	10 PILOT EXTERNAL VISION SCAN
923.00			160086	DESCEND THRU -DECISION HEIGTH
923.00	925.58	2.58	3R	12 MON DECISION NOT LT ON FDI
925.58	926.38	0.80	1710	GOORG CALL OUT - (DECISION NEIGHT)
924.00			180066	CONTROL AIRCRAFT THRU TOUCHDOWN
925.00			180064	CROSS RWY OR MIDDLE MARKER
025.00	926.81	1.81	\$4	13 MONITOR MIDDLE MARKER ANNUM LT ON AND AUDIBLE SIGNAL
926.00			168L15	CROSS MIDDLE MARKER
930.00			00EV02	C/P EXT VIS SCAN
930.00	940.00	10.00	8A	10 PILOT EXTERNAL VISION SCAN
930.00			080003	FLIGHT INSTRUMENT SCAN - A
940.00			160047	MON INSTRUMENTS ON FINAL APP
940.00	\$50.00	10.00	38	62 MONITOR LOCALIZER INDICATOR ON FDI
940.00	\$\$0.00	10.00	38	94 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
940.00	950.00	10.00	38	63 MON GLIDE SLOPE ATT INDIC ON FDI
940.00	850.00	10.00	3.4	10 MONITOR AIRSPEED INDIC
940.00	850.00	19.90	811	06 MON ALTIMETER
940.00	850.00	10.00	8L	02 MON VERTICAL SPEED INDIC
941.00			18BL16	CROSS RW THRESHOLD
950.00			60EA03	C/P EXT VIS SCAN
850.00	860.00	10.00	**	10 PILOT EXTERNAL VISION SCAN
850.00			160068	TOUCHDOWN
950.00			188L17	TOUCHDOWN
\$50.00			090003	FLIGHT INSTRUMENT SCAN - A
960.00			160047	MON INSTRUMENTS ON FINAL APP
960.00	970.00	10.00	3.8	62 MONITOR LOCALIZER INDICATOR ON FDI
960.00	970.00	10.00	38	04 MON A/C POSITION RELATIVE TO SELECTED COURSE ON CI
960.00	970.00	10.00	38	63 MON RLIDE SLOPE ATT INDIC ON FDI
960.00	970.00	10.00	3.4	10 MONITOR AIRSPEED INDIC
960.00	970.00	10.00	311	06 MON ALTIMETER

SINCE MIS BEGINNING	BION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
**0.00	970.00	10.00	3L 02 MON YERTICAL SPEED Indic
970.00			OGEVO2 C/P EXT VIE SCAM
970.00	980.00	10.00	SA 10 PILOT EXTERNAL Vision Scan
970.00			090003 FLIGHT INSTRUMENT SCAM - A
984.00			16DL71 MANDOFF TO GROUND
884.00	105.60	1.60	1D16XX01 MON INFORMATION MANAGEMENT ATENSON
985.60	907.00	2.00	1D16XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-5 UPLIME PROG) AMBER
987.60	969.40	1.00	1X160001 LINE SELECT [ATC UPLINKS PENDING]
149.40	887.40	8.00	1D16XX87 READ -EXIT RUMWAY MEXT INTERSECTION. MONITOR AROUND 121.9 WMEN CLEAR OF RUMWAY
997.40	989.20	1.80	1X180041 LINE SELECT [WILCO]
990.00			090003 FLIGHT INSTRUMENT SCAM - A
1000.00			18DL72 TUNE AND MONITOR ATL BRND ON 121.8/VNF-2L
1000.00	1004.88	4.18	18 01 MON YMF-2L FREQ !MD
1000.00	1002.90	2.00	1B 02 SET WHF-2L FREG- Whole NO.8
1002.90	1004.88	1.88	18 03 SET VHF-2L FREQ - Fractions
1004.90	1006.39	1.49	18 06 SET VMF-2 COMM TFR SW TO LEFT
1006.40	1008.40	2.00	1B 04 ADJ VHF-2 VOLUME
1008.00			16DL73 TAXI CLEARANCE FROM
1009.00	1010.80	1.40	1916XXO1 MON INFORMATION MANAGEMENT ATENSON
1010.60	1012.60	2.00	1010XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-6 UPLIMK PHDG) AMBER
1012.60	1014.40	1.80	1X160001 LINE SELECT (ATC UPLIMES PENDING)
1014.40	1010.40	8.00	1916XX88 READ -TAXI TO RAMP VIA NE/SW TAXIWAY.
1019.40	1021.20	1.00	1X160041 LINE SELECT [WILCO]
1020.00			GOEVO1 C/P EXT VIS SCAM
1020.00	1025.00	5.00	SA 10 PILOT EXTERNAL Vision Scan

B.3 NORMAL ILS APPROACH—ADVANCED FLIGHT DECK Flying Pilot

SHARRAMANARANA * UMSKIFTED * ***********************************		MISSION SCENARI MISSION - CURRENT NAS MISSION - CURRENT NAS CONFIGURATION - 737 AD CREWMEMBER - PILOT	O REPORT		MOV10 1986
TIME : Since Begini	INTERVAL (SECS) Mission Start Hing End	TOTAL ACTIVITY TIME		HASE T/PROCED TASK	ure
0.00					D ILS APP
0.00	•		1881.0	TIO 140: HAS UCT! CON LOG! REA!	SS LOGEN INTERSEC M AT 250 KCAS AND OO FEET.ATL CEMTR PREVIOUSLY INSTR ED NASA 515 TO TACT ATL APPR AT EM.YHF-2R HAS AL- DY BEEN TURED TO RECT FREQ-125.9.
0.00)		16001		TACT ATL APPROACH
9.40	13.40	4.00	1	P167780	
0.00	•		18004	AND FPA AUT	P OUT OF HOR YERT PATH TO ,TKA,AND CAS O FLT MODES ER FPA IN MCP
0.00	0.78	0.78	1	IH 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED
0.00	0.78	0.78	1	2H 42	MON YERT PATH MODE LT DARK - VERT PATH MODE DISENGAGED
0.80	2.14	1.34	1	80 H	MON AUTO MODE LT Green – Auto Mode Engaged
2.10	2.87	0.77	2	:H 16	· · · · · · · · · · · · · · · · · · ·
2.10	2.87	0.77	1	H 22	
2.90	5.35	2.45	1	H 26	ROTATE FPA SEL KNOB
2.90		0.77	2	H 24	MONITOR FPA SEL MODE LT BLUE - FPA SEL MODE PRESELECTED
4.30	5.38	1.08	2	Н 27	READ FPA SEL VALUE ON DIGITAL INDIC
5.40	7,40	2.00	2	K 32	MON ALT/RNG SYMBOLS
7.40	8.80	1.40	3	H 21	PRESS FPA SEL MODE SW
8.80	9.67	0.77	1	H 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED
10.00	1		09004	S FLIG SCAI	BHT INSTRUMENT H -A2
10.00	40.00	30.00		J 02	MON PITCH ATTITUDE
10.00	40.00	\$0.00	:	L 02	MON VERTICAL SPEED INDIC
10.00	40.00	30.00		A 10	MONITOR AIRSPEED
10.00		30.00		K 14	MON MAP VIDEO
10.00		. 30.00		K 46 K 23	MON STRAIGHT TREND VECTOR SYMBOL MON CURVED TREND
10.00		30.00			VECTOR SYMBOLS
40.00			09004		1 -A2
40.00	70.00	30.00	2	J 02	MON PITCH ATTITUDE

SINCE MISSION BEGINNING	START END	ACTIVITY Time	EVENT/PROCEDURE TASK
40.00	70.00	30.00	3L 02 MON VERTICAL SPEED INDIC
40.00	70.00	30.00	3A 10 MONITOR AIRSPEED INDIC
40.00	70.00	30.00	2K 14 MON MAP VIDEO
40.00	70.00	30.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
40.00	70.00	\$0.00	2K 33 MON CURVED TREND YECTOR SYMBOLS
70.00			090048 FLIGHT (MSTRUMENT SCAN -A2
70.00	100.00	30.00	2J 02 MON PITCH ATTITUDE INDIC
70.00	100.00	30.00	3L 92 MON VERTICAL SPEED INDIC
70.00	100.00	30.00	3A 10 MONITOR AIRSPEED INDIC
70.00	100.00	\$0.00	2K 14 MOR MAP VIDEO
70.00	100.00	30.00	2K 46 MON STRAIGHT TREMD YECTOR SYMBOL
70.00	100.00	30.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
15.00			180013 SET NAV-1 TO RUNWAY 8L (LS -109.3
31.50	34.00	2.50	1P 12 MONITOR CALL-OUT
\$4.00	36.25	2.25	SQ 94 MON YOR POINTER NO.1 ON YOR/RM! 1 INDIC
60.00			90EV30 PILOT EXT VIS SCAN
60.00	110.00	80.00	8A 12 PILOT EXTERMAL Vision Scam
38.00			180039 BET ADF-1 TO CATTA -875KC
45.73	47.23	1.50	1P 02 MONITOR CALL-OUT
49.00			180040 SET ADF-2 TO FLANC -344
\$4.00	55.50	1.50	1P 02 MONITOR CALL-OUT
58.00			160033 SET DECISION HEIGTH OM RADIO ALTIMETER
64.00			939997 ENGINE INSTRUMENT SCAN
70.00			18000S DESCENT AND APPROACH CHECKLIST - 1
70.00	72.00	2.00	1P180043 CALL OUT-{DESCENT AND APPROACH CHECK- LIST}
85.00	88.00	1.00	1P 10 MONITOR CALL-OUT
87.00	87.80	0.00	1P 07 MONETOR REPORT
90.00	01.80	1.80	1P 13 MONITOR CALL-OUT
98.00	\$8.40	0.40	1P 16 MONITOR REPORT
100.00			100008 DESCENT AND APPROACH CHECKLIST - 2
102.00	102.80	0.90	1P 11 MONITOR CALL-OUT
103.00	108.54	3.54	7M 03 BET ENG MO.1 START SW TO FLT
100.54	108.28	1.74	7M 06 BET ENG NO.2 START SW TO FLT
108.50	109.00	0.50	1P160049 CALL OUT [FLIGHT]
111.00	112.10	1.10	1P 12 MONITOR CALL-OUT
114.20	114.50	0.30	1P 16 MONITOR REPORT
	117.90	1.40	1P 12 MONITOR CALL-OUT
123.40	124.70	1.30	1P 09 MONITOR REPORT
126.00			180007 DESCENT AND APPROACH CHECKLIST - 3
126.00	129.50	1.50	1P 02 MONITOR CALL-OUT

SINCE MISS		ACTIVITY TIME	OF POOR QUALITY	EVENT/P		RE
BEGINNING 146.00	END 147.00	1.90		12	. 14	MONITOR CALL-OUT
148.00	150.57	2.57		3A	07	MON Y-REF BUG SETTING
148.00	150.87	2.57		3A	05	SET Y-REF BUQ
151.00	184.00	3.00		34	13	CAPT CHECK F.O. < 8 V-REF BUG SETTING
154.00	155.80	1.60		17	08	MONITOR REPORT
157.60	158.90	1.30		12	02	MONITOR CALL-OUT
185.00				080007	EMG I	NE INSTRUMENT
150.00				00EV05	G/P	EXT VIS SCAN
185.00				000051	FL 10	HT INSTRUMENT:-A1
185.00	195.00	10.00		21	02	MON PITCH ATTITUDE
185.00	195.00	10.00		31.	02	MON VERTICAL SPEED
185.00	195.00	10.00		8.8	10	MONITOR AIRSPEED INDIC
185.00	195.00	10.00		2K	14	MON MAP VIDEO
185.00	195.00	10.00		2K	40	MON STRAIGHT TREND VECTOR SYMBOL
185.00	196.00	10.00		2K	**	MON CURVED TREND VECTOR SYMBOLS
185.00				180048	MON	ADF/RMI-2
195.00				180091		OFF TO ATL FINAL OACH CONTROLLER
195.00	207.00	12.00		1P1:	62201	N 515, TURN RT NDG270 DESCNO AND MAINTAIN 6000 FT, CONTACT ATL APPR ON 127.25.
200.00				180081	ENTE ALT	R/ARM NEW IN MCP
200.00	202.47	2.47		211	33	ROTATE ALT ENG KNOB
200.00	200.78	0.78		2H	\$ 1	MON ALT ENG MODE LT Blue - Alt ENG MODE Preselected
201.40	202.48	1.00		2H	34	READ ALT ENG VALUE
202.50	203.02	1.42		2H	28	PRESS ALT ENG MODE S
203.90	204.68	0.78		2H	10	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED
200.00				168L02	BEQ!	N TURN TO DOWN- LEG
205.00				160082	ENTE IN M	R NEW HEADNG CP
205.00	207.50	2.50		2H	10	ROTATE THA SEL KNOS
205.00	206.11	1.11		2 H	20	MEAD TKA SEL VALUE OM DIGITAL IMDIC
207.50	208.27	0.77		2H	15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED
210.00				16BL03	DESC	END THRU 11000.
210.00				090051		HT INSTRUMENT -A1
210.00	220.00	10.00		2,1	02	MON PITCH ATTITUDE
210.00	220.00	10.00		3 L	02	MON YERTICAL SPEED INDIC
210.00	220.00	10.00		34	10	MONITOR AIRSPEED INDIC
210.00	220.00	10.00		2K	14	MON MAP VIDEO
210.00	220.00	10.00		2K	46	MON STRAIGHT TREND VECTOR SYMBOL

SINCE MISSIC	TRATE NO	ACTIVITY Time	EVENT/PROCEDURE Task
210.00	220.00	10.00	2K 33 MON CURVED TREND Vector symbols
218.00			160092 TUNE ATL APPROACH OM 127.28
226.00			160003 CONTACT ATL APPROACH ON 127.25
231.00	235.90	4.00	1P16YY90 MAEA S15,ATL APPR, Rober.
220.00			090048 FLIGHT INSTRUMENT SCAN -A2
220.00	250.00	\$0.00	2J 02 MON PITCH ATTITUDE INDIC
220.00	250.00	30.00	SL 02 MON VERTICAL SPEED INDIC
220.00	250.00	30.00	3A 10 MONITOR AIRSPEED INDIC
220.00	250.00	30.00	2K 14 MON MAP VIDEO
220.00	250.00	30.00	2K 48 MON STRAIGHT TREND VECTOR SYMBOL
220.00	250.00	30.00	2K 33 MOW CURVED TREND VECTOR SYMBOLS
240.00			OCEVOD C/P EXT VIS SCAN
250.00			090048 FLIGHT INSTRUMENT SCAN -A2
250.00	280.00	30.00	2J 02 MON PITCH ATTITUDE
250.00	280.00	30.00	3L 02 MON VERTICAL SPEED INDIC
250.00	200.00	30.00	3A 10 MONITOR AIRSPEED INDIC
250.00	280.00	\$0.00	2K 14 MON MAP VIDEO
250.00	280.00	30.00	2X 46 MON STRAIGHT TREND Vector Symbol
250.00	280.00	30.00	2K 33 MON CURVED TREND Vector symbols
280.00			990949 FLIGHT INSTRUMENT SCAN -A2
280.00	310.00	30.00	2J 02 MON PITCH ATTITUDE Indic
280.00	\$10.00	\$0.00	SL OZ MON YERTICAL SPEED INDIC
260.00	310.00	30.00	3A 10 MONITOR AIRSPEED INDIC
280.00	310.00	10.00	2K 14 MON MAP VIDEO
280.00	310.00	30.00	2K 46 MON STRAIGHT TREND Vector Symbol
280.00	310.00	30.00	2K 33 MON CURVED TREND Vector symbols
310.00			090948 FLIGHT IMSTRUMENT Scan -A2
\$10.00	340.00	30.00	2J 02 MON PITCH ATTITUDE Indic
310.00	340.00	30.00	SL 02 MON VERTICAL SPEED INDIC
310.00	340.00	30.00	3A 10 MONITOR AIRSPEED INDIC
310.00	340.00	30.00	2K 14 MON MAP VIDEO
310.00	340.00	30.00	2K 46 MON STRAIGHT TREND Vector Symbol
310.00	340.00	30.00	2K 33 MON CURVED TREND Vector symbols
340.00			090048 FLIGHT INSTRUMENT SCAN -A2
340.00	370.00	30.00	2J 02 MON PITCH ATTITUDE Indic
340.00	370.00	30.00	3L 02 MON VERTICAL SPEED INDIC

SINCE MISSIC BEGINNING		CTIVITY	OF !	POOR	QUALITE	EVENT/PI TASI		RE
340.00	\$70.00	30.00				3A	10	MONITOR AIRSPEED
340.00	370.00	30.00				2K	14	MON MAP VIDEO
340.00	370.00	30.00				2K	46	MON STRAIGHT TREND VECTOR SYMBOL
340.00	370.00	30.00				2K	11	MON CURVED TREND VECTOR SYMBOLS
288.00						030007	ENG!	NE INSTRUMENT
295.00						60EA08	Ç/P	EXT VIS SCAN
340.00						00EV04	C/P	EXT VIS SCAN
363.00						030007	ENG! SCAN	NE INSTRUMENT
370.00						18BL04	DESC	END THRU 8600.
\$70.00			•			180004		TUDE STEP DOWN ATL APPROACH
370.00	375.00	\$.00				1910	BXX94	MASA 515.DESCEND AND MAINTAIN 5000 FT.
375.00						180081		R/ARM NEW IN MCP
375.00	377.47	2.47				2H	33	ROTATE ALT ENG KNOB
375.00	375.78	0.78				2 H	\$1	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED
\$76.40	377.46	1.08				2 H	34	READ ALT ENG VALUE
377.50	\$78.92	1.42				2H	28	PRESS ALT ENG MODE S
378.90	379.68	0.78				2 H	30	MON ALT EMG MODE LT ORANGE - ALT ENG MODE ARMED
385.00						090048	FLIG	HT : MSTRUMENT -A2
385.00	415.00	\$0.00				2.3	02	MON PITCH ATTITUDE
385.00	415.00	30.00				\$L	02	MON YERTICAL SPEED
385.00	415.00	30.00				**	10	MONITOR AIRSPEED INDIC
385.00	415.00	30.00				2K	14	MON MAP VIDEO
385.00	415.00	30.00				2K	46	MON STRAIGHT TREND VECTOR SYMBOL
385.00	415.00	30.00				2K	11	MON CURVED TREND VECTOR SYMBOLS
415.00						090048	FLIG	HT INSTRUMENT -A2
415.00	445.00	30.00				2,3	02	MON PITCH ATTITUDE
415.00	445.00	30.00				3 L	02	MON VERTICAL SPEED
415.00	445.00	30.00				34	10	MONITOR AIRSPEED
415.00	445.00	30.00				2K	14	MON MAP VIDEO
415.00	445.00	30.00				2K	46	MON STRAIGHT TREND VECTOR SYMBOL
415.00	445.00	30.00				2K	**	MON CURVED TREND VECTOR SYMBOLS
445.00						980048	FLIG	HT INSTRUMENT -A2
445.00	475.00	30.00				2,1	02	MON PITCH ATTITUDE
445.00	475.00	30.00				\$L	02	MON VERTICAL SPEED
445.00	475.00	30.00				3.4	10	MONITOR AIRSPEED INDIC
445.00	475.00	30.00				2K	14	MON MAP VIDEO

SINCE MISSIC BEGINNING	N START END	ACTIVITY TIME	EVENT/PROTASK	CEDURE
445.00	475.00	30.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
445.00	475.00	30.00	2K	SS MON CURVED TREND VECTOR SYMBOLS
475.00			090048	FLIGHT INSTRUMENT SCAN -A2
475.00	505.00	30.00	2,1	02 MON PITCH ATTITUDE
475.00	505.00	30.00	3 L	02 MON VERTICAL SPEED
475.00	\$05.00	30.00	3A	10 MONITOR AIRSPEED INDIC
475.00	\$05.00	30.00	2 K	14 MON MAP VIDEO
475.00	\$05.00	30.00	2K	46 MOM STRAIGHT TREND VECTOR SYMBOL
475.00	\$05.00	30.00	2K	SS MON CURVED TREND VECTOR SYMBOLS
505.Ò0				FLIGHT INSTRUMENT SCAN -A1
\$05.00	\$15.00	10.00	2,	02 MON PITCH ATTITUDE
505.00	515.00	10.00	3L	02 MON YERTICAL SPEED
505.00	\$1\$.00	10.00	3A	10 MONITOR AIRSPEED
\$05.00	\$15.00	10.00	2 K	14 MON MAP VIDEO
505.00	515.00	10.00	2 K	46 MON STRAIGHT TREND VECTOR SYMBOL
505.00	515.00	10.00	2K	SS MON CURVED TREND VECTOR SYMBOLS
385.00			00EV08	C/P EXT VIS SCAN
430.00				ENGINE INSTRUMENT SCAN
440.00			00EV03	C/P EXT YIS SCAN
450.00			160002	TUNE AT:8 -119.65
458.00	482.00	24.00	1A	15 MON VHF-1 COMM AUDIO
450.00	481.42	3.42	17160	1961 MON RADIO COMM - [INFORMATION LIMA ONE SEVEN ZERO FIVE OBSERVATION - TWO
461.42	485.94	4.56	1P160	902 FIVE MUNDRED SCAT- TERED CEILING FOUR THOUSAND BROKEN. VISIBILITY ONE SIX.
465.98	470.54	4.56	1P160	OO3 TEMPERATURE FIVE MINER. WIND ONE ONE ZERO DEGREES AT TEM GUSTING TO ONE SEVEN
470.54	475.10	4.56	17160	004 . ALTIMETER TWO - NIMER EIGHT FOUR. SIMULTANEOUS PARAL-
475.10	479.66	4.50	19100	LEL APPROACHES IN OOS OPERATION ON RUNWAYS EIGHT LEFT AND MIMER RIGHT. ADVISE COM- TROLLER ON INITIAL
479.66	481.94	2.20	17160	
460.00			160048	MON ABF/RMI-2
460.00			168105	CROSS FT NDB
465.00			00EV09	C/P EXT VIS SCAN
480.00				SET ALTIMETER BARO SETTING TO 29.84
480.00	483.50	3.50	12	18 MONITOR CALL-OUT
484.00				ALTIMETER BARO SET PROC.
484.00	488.65	2.65	3H	04 MONITOR ALTIMETER BARO SETTING INDIC
484.00	486.65	2.65	3H	03 SET ALTIMETER BARO SETTING CONTROL

			DE POOR QU	MILL I		
SINCE MISS BEGINNING	ION START END	ACTIVITY Time			T/PROCED Task	URE
\$13.00				0300	07 ENG Sca	INE INSTRUMENT
519.00				1600	41 MON	YOR/RMI-1
\$19.00	\$21.00	2.00		!	SQ 04	MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
\$19.00	521.00	2.00		I	5G 05	MON YOR POINTER NO.2 ON YOR/RMI 1 INDIC
520.00				1600		TOR FOR BASE LEG M atl approach
\$20.00	525.00	\$.00			P16XX96	MASA 515,TURM LEFT MEADING 180.
523.00				1800		ER NEW HEADNG MCP
523.00	525.50	2.50		:	EH 19	ROTATE TKA SEL KNOS
\$23.00	524.11	1.11		:	IH 20	READ THA SEL VALUE ON DIGITAL INDIC
525.50	\$26.27	0.77		:	RH 15	MON TKA SEL MODE LT Green – TKA SEL MODE ENGAGED
523.00				16BL	6 BEG	IN TURN TO BASE
840.00				1400	S REP	ORT 1000 FT TO EL OFF
542.00	543.70	1.70		1	i ř 11	MONITOR CALL-OUT
550.00				ODEV	3 C/P	EXT VIS SCAN
555.00				09008		GHT INSTRUMENT N -A1
555.00	\$65.00	10.00		:	11 03	MON PITCH ATTITUDE
\$55.00	\$65.00	10.00		:	IL 02	MON VERTICAL SPEED
555.00	\$65.00	10.00		:	10	MONITOR AIRSPEED
\$55.00	565.00	10.00		:	K 14	MON MAP VIDEO
\$55.00	\$66.00	10.00		:	IK 46	MOM STRAIGHT TREND VECTOR SYMBOL
555.00	565.00	10.00		:	IK 33	MON CURVED TREND VECTOR SYMBOLS
565.00				16004	1 MON	YOR/RMI-1
\$65.00	\$67.00	2.00			i a 04	MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
585.00	567.00	2.00		•	i a 05	MON YOR POINTER NO.2 ON YOR/RMI 1 INDIC
589.00				16004	Z MON	ADF/RMI-1
569.00	\$71.00	2.00		•	iD 28	MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC
569.00	\$71.00	2.00		•	iD 29	MON ADF POINTER NO.2 ON ADF/RM! 1 INDIC
\$70.00				16001	AND	TOR TO INTERCEPT FINAL APPROACH ARANCE FROM ATL ROACH CONTROL
570.00	\$80.00	10.00		1	P16XX00	MASA \$15,12 MILES FROM OM,TURM LT HDG 110, MAINTAIN 5000 FT UNTIL CROSSING BAHRR
\$80.00	587.00	7.00		1	P16ZZ96	CLEARED FOR ILS RUN- WAY 8 LEFT APPROACH. CONTACT TOWER ON 119.5 AT BAHRR.
575.00				18001	2 ENT	ER NEW HEADING
\$75.00	\$77.50	2.50		2	H 19	ROTATE THA SEL KNOS
\$75.00	676.11	1.11		1	Н 20	READ TKA SEL VALUE ON DIGITAL INDIC
\$77.50	\$78.27	0.77		1	H 15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED
\$75.00				16810	7 TURI FINA	N TO INTERCEPT AL APPR. COURSE

SINCE MISSIC BEGINNING	N START END	ACTIVITY TIME	EVENT/PROCEDURE TASK	
585.00			180083 ARM LAND MODE	
\$85.00	587.13	2.13	2H 10 PRESS LAND MODE SW	
587.20	588.25	1.05	2H 12 MON LAND MODE LT ORANGE - LAND MODE ARMED	
597.00			160034 TUNE ATLANTA TOWER -119.5	
600.00			180070 FLIGHT INSTRUMENT SCAN -A1, PILOT	
600.00	610.00	10.00	ZK 14 MON MAP VIDEO	
800.00	610.00	10.00	2X 48 MON STRAIGHT TREND VECTOR SYMBOL	
6 00.00	610.00	18.00	2K 33 MON CURVED TREND Vector symbols	
600.00	610.00	10.00	2J OS MON FLT PATH ANGLE INDIC	
600.00	610.00	10.00	2J 04 MON FLT PATH ACCEL INDIC	
600.00	610.00	10.00	2J 01 MON ROLL ATT INDIC	
800.00	610.00	10.00	2J 19 MON PITCH REF INDIC	
600.00	610.00	10.00	3A 10 MONITOR AIRSPEED INDIC	
607.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT	
\$10.00			180084 CAPTURE AN ALT IN ALT SEL MODE	
610.00	610.76	0.78	2H 29 MONITOR ALT ENG MODE LT GREEN - ALT ENG MODE ENGAGED	
611.00	611.77	0.77	2H 25 MOMITOR FPA SEL MODE LT DARK - FPA SEL Mode disengaged	
\$10.00			16BLOB LEVEL OFF AT \$000 FT Begin decel from 250 To 210 KGAS	
617.00			180073 FLIGHT INSTRUMENT SCAN —A1, COPILOT	
613.00			180085 ENTER NEW SPEED IN CAS WINDOW	
613.00	615.45	2.45	2H 47 ROTATE CAS ENF KNOB	
613.00	614.04	1.04	2M 46 READ CAS ENG VALUE OM DIGITAL INDIC	
615.50	616.28	0.78	2H 44 MON CAS ENG MODE LT GREEN - CAS MODE ENGAGED	
623.00			180088 CAPTURE LOCALIZER	
823.00	625.19	2.19	2J 18 MOM (LS BOX INDIC	
825.00	626.50	1.50	1P 02 MONITOR CALL-OUT	
625.00	625.77	0.77	2M 16 MON TKA SEL MODE LT Dark – Tka sel mode Disembaged	
626.00			180071 FLIGHT INSTRUMENT Scan -A2, Pilot	
628.00	656.00	30.00	2K 14 MON MAP VIDEO	
626.00	656.00	\$0.00	2K 46 MON STRAIGHT TREND Vector symbol	
626.00	888.00	30.00	2K 33 MON CURVED TREND Vector symbols	
826.00	656.00	\$0.00	2J 18 MONILS BOX IMDIC	
826.00	656.00	30.00	2J 04 MON FLT PATH ACCEL INDIC	
626.00	656.00	30.00	2J 01 MON ROLL ATT INDIC	
626.00	858.00	30.00	2J 19 MON PITCH REF INDIC	
\$28.00	658.00	30.00	3A 10 MONITOR AIRSPEED Indic	

SINCE MISS	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
627.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
837.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
643.00			180045 ANNUNCIATOR RECALL
647.00			180073 FLIGHT INSTRUMENT 8CAN -A1, COPILOT
655.00			160041 MON VOR/RMI-1
655.00	657.00	2.00	SQ 04 MON YOR POINTER NO.1 ON YOR/RM! 1 INDIC
655.00	657.00	2.00	5G OS MON VOR POINTER NO.2 ON VOR/RMI 1 INDIC
657.00			160042 MON ADF/RMI-1
857.00	859.00	2.00	5D 28 MON ADF POINTER MO.1 ON ADF/RM! 1 INDIC
657.00	850.00	2.00	SD 29 MON ADF POINTER NO.2 ON ADF/RMI 1 INDIC
657.00			160048 MON ADF/RM1-2
860.00		_	16BL09 REACH 210 KGAS
660.00			180087 CAPTURE QLIDE SLOPE
660.00	662.19	2.10	2J 13 MON ILS BOX Indic
662.00	663 .05	1.05	2H 11 MON LAND MODE LT GREEN - LAND MODE ENGAGED
684.00			160061 CONTACT TOWER FOR FINAL LANDING CLEAR- ANCE
\$74.40	881.40	7.00	18 19 MON VHF-2 COMM AUDIO
674.40	678.40	4.00	1P188948 MON RADIO COMM - [MASA 515, MO. 3 FOR 8L.DC-8 3 MI ANEAD.WIND 119
678.40	681.40	3.00	1P180041 AT NIME.CLEARED TO LAND RW SL.
864.00			16BL10 CROSS BAHAR
684.00			180011 SET FLAPS TO FLAPS 1
884.00	684.70	0.70	1P160058 CALL OUT -[FLAPS 1]
689.00	689.70	0.70	1P 10 MONITOR CALL-OUT
691.00	681.44	0.44	7F SC MON ENG NO 2 EPR IND
691.00	881.44	0.44	7F 25 MON ENG NO 1 EPR IND
070.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
670.00	700.00	30.00	2K 14 MON MAP VIDEO
670.00	700.00	30.00	2K 46 MON STRAIGHT TREND Vector Symbol
670.00	700.00	30.00	2K 33 MOM CURVED TREND VECTOR SYMBOLS
670.00	700.00	\$0.00	2J 13 MOM ILS BOX Indic
670.00	700.00	30.00	2J 04 MON FLT PATH ACCEL INDIC
670.00	700.00	30.00	2J 01 MON ROLL ATT INDIC
670.00	700.00	30.00	2J 10 MON PITCH REF INDIC
870.00	700.00	\$0.00	3A 10 MONITOR AIRSPEED INDIC
885.00			188L11 REACH 190 KCAS
694.00			180017 SET PLAPS TO PLAPS S
694.00	694.70	0.70	1P180081 CALL OUT -[FLAPS 6]
694.00			180018 FLAP SET PROCEDURE
700.03	700.73	0.70	1P 10 MONITOR CALL-OUT
701.00	701.44	0.44	7F 26 MON ENG NO 1 EPR IND
701.44	701.88	0.44	7F 30 MON ENG NO 2 EPR IND

SINCE MISSIC BEGINNING	ON START END	ACTIVITY Time	EVENT/PRO Task	OCEDURE
699.00		· · ····	030007	ENGINE INSTRUMENT SCAN
700.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
700.00	730.00	30.00	2K	14 MON MAP VIDEO
700.00	730.00	\$0.00	2K	46 MON STRAIGHT TREND YECTOR SYMBOL
700.00	730.00	30.00	21(33 MON CURVED TREND VECTOR SYMBOLS
700.00	730.00	30.00	51	18 MON (LS BOX INDIC
700.00	730.00	30.00	31	04 MON FLT PATH ACCEL INDIC
700.00	730.00	30.00	2J	01 MON ROLL ATT INDIC
700.00	730.00	10.00	2,5	19 MON PITCH REF INDIC
700.00	730.00	30.00	3A	10 MONITOR AIRSPEED INDIC
708.00			168L12	REACH 170 KCAS
710.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
720.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
730.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
730.00			00EV21	PILOT EXT VIE SCAN
730.00	735.00	6.00	BA	10 PILOT EXTERNAL VISION SCAN
740.00			160069	SET SPEED BRAKES
740.00	743.26	3.26	4F	02 SET SPEED BRAKE LEVER TO ARM
740.00	740.73	0.73	4F	07 MONITOR SPEED BRAKE LEVER ARMED LT GREEN
744.00			160048	MON ADF/RM1-2
745.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
745.00	775.00	\$0.00	2K	14 MON MAP VIDEO
745.00	775.00	30.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
745.00	775.00	30.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
745.00	775.00	30.00	21	18 MON ILS BOX INDIC
745.00	775.00	\$0.00	2,j	04 MON FLT PATH ACCEL INDIC
745.00	775.00	30.00	2,1	01 MON ROLL ATT INDIC
745.00	775.00	30.00	21	19 MON PITCH REF INDIC
745.00	775.00	30.00	3.4	10 MONITOR AIRSPEED INDIC
745.00			168L13	CROSS REIFF
748.00			160070	SET AUTO BRAKES
755.00			0 0EY01	C/P EXT VIS SCAN
785.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
775.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
775.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
775.00	805.00	30.00	2K	14 MON MAP VIDEO
775.00	805.00	30.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
775.00	808.00	30.00	2K	SS MON CURVED TREND VECTOR SYMBOLS
775.00	805.00	30.00	2,	IS MON ILS BOX

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SINCE MISS BEGINNING	ION START END	ACTIVITY TIME	OF	POOR	QUALITY.	EVENT/P		RE
775.00	\$05.00	30.00				2,1	04	MON FLT PATH ACCEL
775.00	805.00	\$0.00				2,	01	MON ROLL ATT INDIC
775.00	\$05.00	\$0.00				23	19	MON PITCH REF INDIC
775.00	805.00	30.00				3A	10	MONITOR AIRSPEED
800.00						160058	REPO	RT RUNWAY IN
802.00	803.00	1.00				12	10	MONITOR CALL-OUT
805.00						00EY21	PILO	T EXT VIS SCAN
805.00	810.00	\$.00				#A	10	PILOT EXTERNAL VISION SCAN
808.00						180018	FLAF	SET PROCEDURE
814.03	014.73	0.70				18	10	MONITOR CALL-OUT
815.00	815.44	0.44				7 F	25	MON ENG NO 1 EPR IND
815.44	815.88	0.44				7 F	30	MON ENG NO 2 EPR IND
808.00						160025	8ET 16	FLAPS TO FLAPS
808.00	808.70	0.70				171	60062	CALL OUT -[FLAPS 15]
812.00						180042	MON	ADF/RMI-1
812.00	814.00	2.00				8 D	28	MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC
812.00	814.00	2.00				5 D	28	MON ADF POINTER NO.2 ON ADF/RMI 1 INDIC
815.00						180059	CROS Mark	S RWY OO OUTER Er
815.00	815.72	0.72				37	11	MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL
\$17.00	818.80	1.80				121	60075	CALL OUT -[GEAR DOWN AND LANDING CHECK- LIST]
815.00	817.10	2.10				311	03	START ELAPSED TIME
815.00						168L14	THEN	S CATTA LOM-GEAR EXTENDED AND KCAS MAINTAINED
815.00						180049	MON	RADIO ALTIMETER
820.00						160080	EXTE	ND LANDING GEAR
820.00						180071		HT INSTRUMENT -A2, PILOT
820.00	850.00	30.00				2 K	14	MON MAP VIDEO
820.00	850.00	30.00				2K	46	MON STRAIGHT TREND VECTOR SYMBOL
820.00	\$ 50.00	30.00				2K	38	MON CURVED TREND VECTOR SYMBOLS
820.00	850.00	30.00				2,	13	MON ILS BOX
\$20.00	850.00	30.00				2,1	04	MON FLT PATH ACCEL
820.00	850.00	30.00				21	01	MON ROLL ATT INDIC
\$20.00	850.00	\$0.00				2 J	19	MON PITCH REF INDIC
820.00	850.00	30.00				3.4	10	MONITOR AIRSPEED
845.00						160062		ING CHECKLIST
847.00	847.80	0.60				1P	10	MONITOR CALL-OUT
847.60	848.00	0.40				17	14	MONITOR CALL-OUT
850.00	850.70	0.70				16	10	MONITOR CALL-OUT
851.00	852.30	1.30					60079	CALL OUT - (ARMED - GREEN LIGHT)
854.50	855.20	0.70				1P	10	MORITOR CALL-OUT
855.20	\$56.20	1.00				17	10	MONITOR CALL-OUT
858.20	858.60	9.40				1P	14	MONITOR CALL-OUT

SINCE MISSION BEGINNING		ACTIVITY Time	EVENT/PR TASK	
858.60	859.70	1.10	18	12 MONITOR CALL-OUT
850.00			00EV21	PILOT EXT VIS SCAN
850.00	\$55.00	5.00	84	10 PILOT EXTERNAL VISION SCAN
855.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
855.00	885.00	30.00	2K	14 MON MAP VIDEO
855.00	845.00	30.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
855.00	885.00	30.00	2K	38 MON CURVED TREND VECTOR SYMBOLS
855.00	885.00	30.00	2,1	18 MON ILS BOX
855.00	885.00	\$0.00	2,	64 MON FLT PATH ACCEL INDIC
855.00	885.00	30.00	21	01 MON ROLL ATT INDIC
855.00	885.00	30.00	2 J	19 MON PITCH REF INDIC
855.00	**5.00	30.00	3.4	10 MONITOR AIRSPEED
865.00			00EV02	C/P EXT VIS SCAN
877.00			160073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
889.00			030007	ENGINE INSTRUMENT
885.00			180071	FLIGHT INSTRUMENT SCAM -A2, PILOT
885.00	915.00	30.00	2K	14 MON MAP VIDEO
885.00	915.00	30.00	2 K	46 MON STRAIGHT TREND VECTOR SYMBOL
885.00	915.00	30.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
885.00	015.00	30.00	24	13 MON ILS BOX INDIC
885.00	915.00	30.00	2,1	04 MON FLT PATH ACCEL INDIC
885.00	915.00	30.00	2,	OI MON ROLL ATT INDIC
885.00	915.00	30.00	2J	19 MON PITCH REF INDIC
865.00	915.00	30.00	3.4	10 MONITOR AIRSPEED INDIC
895.00			180049	MON RADIO ALTIMETER
900.00			00EY04	C/P EXT VIS SCAN
923.00			160065	DESCEND THRU -DECISION MEIGTH
925.58	926.38	0.80	19	11 MONITOR CALL-OUT
915.00			00EV21	PILOT EXT VIS SCAN
915.00	920.00	\$.00	\$A	10 PILOT EXTERNAL VISION SCAN
120.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
920.00	950.00	\$0.00	2K	14 MON MAP VIDEO
020.00	950.00	\$0.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
920.00	●50.00	30.00	2K	SS MON CURVED TREND VECTOR SYMBOLS
920.00	850.00	30.00	2,1	18 MON ILS BOX
120.00	950.00	30.00	2,1	04 MON FLT PATH ACCEL INDIC
920.00	950.00	\$0.00	2,1	01 MON ROLL ATT INDIC
920.00	950.00	30.00	2.1	19 MON PITCH REF INDIC
920.00	950.00	30.00	34	, 10 MONITOR AIRSPEED INDIC

SINCE MISS	SION START END	ACTIVITY Time	EVENT/PRO TASK	CEDURE
925.00		.,		CROSS RWY 08 WIDDLE Marker
925.00	926.91	1.91	3V	18 MONITOR MIDDLE MARKER ANNUN LT ON AND AUDIBLE SIGNAL
\$28.00			16BL15	CROSS MIDDLE MARKER
930.00			OOEVOZ	C/P EXT VIB SCAN
\$40.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
941.00			168L16	CROSS RW THRESHOLD
850.00			16BL17	TOUCHDOWN
950.00			i	TOUCHDOWN AND ROLL- OUT, AGCS AUTO LAND MODE CONTROLS A/C UNTILL BOKTS
950.00	\$80.00	30.00	8A	11 PILOT EXTERNAL VISION SCAN
150.00	980.00	30.00	2,3	15 MON TY VIDEO
950.00	980.00	30.00	2J	40 MON EAD! RWWY
950.00	980.00	30.00	2,1	41 MON EAD! DRIFT INDIC
950.00	980.00	30.00	7F	26 MON ENG NO 1 EPR IND
950.00	980.00	30.00	7#	SO MON ENG NO 2 EPR IND
●●○.00				TOUCHDOWN AND ROLL- OUT, AGCS AUTO LAND Mode Controls A/C Untill 30kts
980.00	1010.00	\$0.00	8A	11 PILOT EXTERNAL VISION SCAN
980.00	1010.00	\$0.00	2,1	15 MON TY VIDEO
980.00	1010.00	30.00	2. j	40 MON EAD! RNWY
980.00	1010.00	30.00	2,1	41 MON EAD! DRIFT INDIC
980.00	1010.00	30.00	75	25 MON ENG NO 1 EPR IND
980.00	1010.00	\$0.00	75	30 MON ENG NO 2 EPR IND
1010.00			180037	DISENGAGE AGCS
1010.00	1012.13	2.13	2H	10 PRESS LAND MODE SW
1012.13	1013.10	1.0\$	211	13 MON LAND MODE LT DARK - LAND MODE DISENGAGED
1013.18	1014.62	1.44	211	01 PRESS ATT CWS MODE SW
1014.02	1015.67	1.05	2H	02 MOM ATT CWS MODE LT GREEN - ATT CWS ENGAGED
1015.87	1017.01	1.34	2 H	09 MON AUTO MODE LT DARK - AUTO MODE DISENGAGED
1010.00	1020.00	10.00	44	64 MANUALLY CONTROL A/C
1020.00	1025.00	5.00	4A	64 MANUALLY CONTROL A/C
1010.00			00EY23	PILOT EXT VIS SCAN
1010.00	1025.00	15.00	•	10 PILOT EXTERNAL VISION SCAM
884.00				MANDOFF TO GROUND CONTROL -121.0
\$84.00	990.00	€.00	18	18 MON YHF-Z COMM AUDIO
984.00	987.50	3.50	19160	OS7 MON RADIO COMM - [MASA SIS.EXIT RUM- WAY MEXT INTERSEC- TION. CONTACT GROUND
987.50	990.00	2.50	19160	OSS POINT NINER WHEN CLEAR OF RUNWAY, OVER)
1004.00	1007.50	3.50	18	18 MON VHF-2 COMM AUDIO
1004.00	1007.80	3.50	19180	091 MON RADIO COMM - [NASA S15, ATLANTA GROUND, TAX! TO RAMP VIA NORTHEAST=SOUTH-
1007.50	1008.50	1.00	1P160	

OUNSHIFTED W

MISSION SCENARIO REPORT

MISSION - MD-S DATA LINK

ILS AP-BASE LN.

CONFIGURATION - 737 ADVCND FLT DCK

CREWMEMBER - PILOT

TIME INTERVAL SINCE MISSION BEGINNING	(SECS) START END	TOTAL ACTIVITY TIME	FLIGHT PHASI EVENT/PI TASI	OCEDURE
0.00			18DL DATA L	NK AFD ILS AP
0.00			16DL01	CROSS LOGEN INTERSEC TION AT 250 RCAS AND 14000 FEET.ATL CENTR HAS PREVIOUSLY INSTR UCTED HASA 515 TO MONITOR ATL APPROACH ON 128.9 AT LOGEN. VMF-ZR HAS BEEN SET.
0.00			16DL90	MONITOR ATL APPROACH ON 126.9/VHF-2R
0.00			180000	DROP OUT OF HOR AND VERT PATH TO FPA,TKA,AND CAS AUTO FLT MODES ENTER FPA IN MCP
0.00	0.78	0.78	2H	38 MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED
0.00	0.78	0.78	2Н	42 MON YERT PATH MODE LT DARK - VERT PATH MODE DISENGAGED
0.80	2.14	1.34	2H	OS MON AUTO MODE LT Green - Auto Mode Engaged
2.10	2.87	0.77	2H	15 MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED
2.10	2.87	0.77	2H	22 MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED
2.90	5.35	2.46	2н	26 ROTATE FPA SEL KNOB
2.90	\$.67	0.77	2Н	24 MONITOR FPA SEL MODE LT BLUE - FPA SEL MODE PRESELECTED
4.50	5.38	1.08	2н	27 READ FPA SEL VALUE ON DIGITAL INDIC
5.40	7.40	2.00	2K	32 MON ALT/RHG SYMBOLS
7.40	8.80	1.40	2H	21 PRESS FPA SEL MODE SW
8.60	9.57	0.77	2H	22 MONITOR FFA SEL MODE LT GREEN - FFA SEL MODE ENGAGED
10.00			090048	FLIGHT INSTRUMENT SCAN -A2
10.00	40.00	30.00	2,1	02 MON PITCH ATTITUDE INDIC
10.00	40.00	30.00	31.	92 MON VERTICAL SPEED INDIC
10.00	40.00	30.00	\$A,	10 MONITOR AIRSPEED INDIC
10.00	40.00	30.00	2K	14 MON MAP VIDEO
10.00	40.00	30.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
10.00	40.00	30.00	2K	SS MON CURVED TREND VECTOR SYMBOLS
40.00			090048	FLIGHT INSTRUMENT SCAN -A2
40.00	70.00	30.00	2,1	02 MON PITCH ATTITUDE INDIC
40.00	70.00	\$0.00	3 L	02 MON VERTICAL SPEED INDIC
40.00	70.00	30.00	3A	10 MONITOR AIRSPEED INDIC

10.00 10.00 30.0	SINCE MISS BEGINNING	ION START	ACTIVITY Time	EVENT/PR Task		
## 40.00 70.00 30.00 31.30 32.31 300 COUNTY TREID 70.00 100.00 30.00 30.00 31.30 31.00	40.00	70.00	30.00	2K	14 MOR MAP VIDEO	
100.00	40.00	70.00	30.00	2K		
170.00 100.00 100.00 10.00 10.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 12.00	40.00	70.00	30.00	2K		
1700 100.00 10	70.00			090048		
100.00 100.00 30.00 30.00 2K 14 MONITOR ALREPTED 1801CF 1	70.00	100.00	30.00	2,1		
190.00 100.00 30.00 30.00 2K 14 MON MAP YIPEO	70.00	100.00	30.00	\$L	92 MON VERTICAL SPEED INDIC	
70.00 100.00 30.00 30.00 2K	70.00	100.00	30.00	3A		
70.00 100.00 30.00 30.00 38 38 38 WICTOR SYMBOL 15.00 100.00 30.00 30.00 38 38 38 WICTOR SYMBOLS 15.00 100.00 31.00 2.50 190.01 SET INDO 15.00 31.00 32.50 1P 12 MONITOR CALL-OUT 100.00 110.00 50.00 88 4 12 FILE TIRENT 100.00 110.00 50.00 88 A 12 FILE TIRENT 100.00 110.00 50.00 88 A 12 FILE TIRENT 100.00 110.00 50.00 88 A 12 FILE TIRENT 100.00 110.00 10.00 10.00 1P 02 MONITOR CALL-OUT 100.00 15.50 1.50 1.50 1P 02 MONITOR CALL-OUT 100.00 100.00 100.00 1P 02 MONITOR CALL-OUT 100.00 72.00 2.00 1P10004 EET ADP-1 TO CATTA 100.00 1P 02 MONITOR CALL-OUT 100.00 1P 00 MONITOR CALL-OUT 100.00 1P 100 MONITOR CALL-OUT 100.00 1P 100 MONITOR CALL-OUT 100.00 1P 10 MONITOR CALL-OUT 100.00 10 1.50 1P 10 MONITOR CALL-OUT 110.00 10 10 10 10 10 10 10 10 10 10 10 10 1	70.00	100.00	30.00	2K	14 MON MAP VIDEO	
15.00 18013 STANDOLS 18013	70.00	100.00	30.00	2K		
31.50 34.00 2.50 1P 12 MONITOR CALL-OUT	70.00	100.00	30.00	2K		
34.00 36.23 2.25 36.00 90 90 90 90 11 10 10	15.00			180013		
10.00 10.0	31.50	34.00	2.50	1 P	12 MONITOR CALL-OUT	
80.00 110.00 \$0.0	34.00	36.25	2.25	56		. 1
180030 SET APP-1 TO CATTA 180030 SET APP-1 TO CATTA 18-73	80.00			00EY30	PILOT EXT VIS SCAN	
45.73 47.23 1.50 1P 02 MONITOR CALL-OUT 49.00 180040 SET AMP-2 TO FLANC -344 84.00 55.50 1.50 1.50 1P 03 MONITOR CALL-OUT 88.00 19 03 MONITOR CALL-OUT 84.00 72.00 2.00 180000 PERCENT AND APPROACH 70.00 72.00 2.00 1.00 1P 10 MONITOR CALL-OUT 85.00 86.00 1.00 1.00 1P 10 MONITOR CALL-OUT 87.00 87.80 0.80 1.80 1P 07 MONITOR CALL-OUT 88.00 98.40 0.40 1P 16 MONITOR CALL-OUT 88.00 98.40 0.40 1P 16 MONITOR CALL-OUT 88.00 98.40 0.40 1P 18 MONITOR CALL-OUT 88.00 102.80 0.50 1P 11 MONITOR CALL-OUT 88.00 102.80 0.50 1P 11 MONITOR CALL-OUT 88.00 102.80 0.50 1P 10 MONITOR CALL-OUT 88.00 102.80 0.50 1P 10 MONITOR CALL-OUT 88.00 102.80 0.50 1P 10 MONITOR CALL-OUT 88.00 103.00 0.50 1P 18000 88 MONITOR CALL-OUT 181.00 1P 10 MONITOR CALL-OUT 182.00 1P 18 MONITOR REPORT 183.00 128.50 1.50 1.50 1P 02 MONITOR REPORT 184.00 147.90 1.30 1.90 1P 02 MONITOR CALL-OUT 184.00 147.90 1.30 1.90 1P 02 MONITOR CALL-OUT 184.00 147.90 1.30 1.90 1P 02 MONITOR CALL-OUT	60.00	110.00	50.00	84		
49.00 1.80 1	38.00			160039		
S4.00 S5.50 1.50	45.73	47.23	1.50	12	02 MONITOR CALL-OUT	
180038 SET DECISION HEIGTH ON RADIO ALTIMETER	49.00			160040		
Second S	54.00	55.50	1.50	19	02 MONITOR CALL-OUT	
70.00 180005 1800	50.00			160036		
70.00 72.00 2.00 100 100 100 100 100 100 100 100 100	64.00			030007		
### AND APPROACH CHECK-LIST** 85.00	70.00			180005	DESCENT AND APPROACH CHECKLIST - 1	
87.00 87.80 0.80 1.80 1.7 MONITOR REPORT 80.00 91.80 1.80 1.80 1.80 1.80 1.80 1.80 1.80	70.00	72.00	2.00	19188	AND APPROACH CHECK-	
80.00 91.80 1.80 1.80 1.80 1.9 13 MONITOR CALL-OUT 88.00 98.40 0.40 1P 16 MONITOR REPORT 100.00 102.90 0.90 1P 11 MONITOR CALL-OUT 103.00 106.54 3.54 7M 03 SET ENG NO.1 START SW TO FLT 108.54 108.28 1.74 7M 08 SET ENG NO.2 START SW TO FLT 111.00 112.10 1.10 1.10 1P 12 MONITOR CALL-OUT 114.20 114.80 0.30 1P 18 MONITOR CALL-OUT 116.50 117.90 1.40 1.90 1P 18 MONITOR REPORT 116.50 124.70 1.30 1P 09 MONITOR REPORT 128.00 129.50 1.50 1.50 1P 09 MONITOR REPORT 148.00 147.90 1.90 1.90 1.90 1P 14 MONITOR CALL-OUT 148.00 147.90 1.90 1.90 1.90 1P 14 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF SUG	85.00	86.00	1.00	17	10 MONITOR CALL-OUT	
98.00 98.40 0.40 1p 16 MONITOR REPORT 100.00 102.90 0.90 1p 11 MONITOR CALL-OUT 103.00 106.54 3.54 7m 03 SET ENG NO.1 START 106.54 108.28 1.74 7m 06 SET ENG NO.2 START 108.50 109.00 0.50 1p180049 CALL OUT CFLIGHT) 111.00 112.10 1.10 1.10 1p 12 MONITOR CALL-OUT 114.20 114.80 0.30 1p 18 MONITOR REPORT 116.50 117.90 1.40 1p 18 MONITOR REPORT 123.40 124.70 1.30 1p 09 MONITOR REPORT 126.00 129.50 1.50 1.50 1p 09 MONITOR CALL-OUT 148.00 147.90 1.90 1.90 1p 14 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF BUG	87.00	87.80	0.80	19	07 MONITOR REPORT	
100.00 16006 DESCENT AND APPROACH 102.00 102.00 102.00 102.00 109.00 106.54 3.54 7M 03 SET ENG NO.1 START 106.54 108.28 1.74 7M 06 SET ENG NO.2 START 108.50 109.00 0.50 19160049 CALL OUT [FLIGHT] 111.00 112.10 1.10 19 12 MONITOR CALL-OUT 114.20 114.50 0.30 19 18 MONITOR REPORT 116.50 117.90 1.40 19 12 MONITOR CALL-OUT 123.40 124.70 1.30 19 09 MONITOR REPORT 126.00 129.50 1.50 1.50 19 09 MONITOR CALL-OUT 146.00 147.90 1.80 1.90 19 14 MONITOR CALL-OUT 148.00 147.90 1.80 19 14 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF BUG	90.00	91.80	1.80	17	18 MONITOR CALL-OUT	
102.00 102.80 0.90 1P 11 MONITOR CALL-OUT 103.00 106.54 3.54 7M 03 SET EMG NO.1 START 106.54 108.28 1.74 7M 06 SET EMG NO.2 START 108.50 109.00 0.50 1P16049 CALL OUT [FLIGHT] 111.00 112.10 1.10 1P 12 MONITOR CALL-OUT 114.20 114.50 0.30 1P 18 MONITOR REPORT 116.50 117.90 1.40 1P 12 MONITOR CALL-OUT 123.40 124.70 1.30 1P 09 MONITOR REPORT 126.00 129.50 1.50 1.50 1P 02 MONITOR CALL-OUT 148.00 147.90 1.90 1.90 1P 14 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF BUG	98.00	98.40	0.40	1P	16 MONITOR REPORT	
103.00 106.54 3.54 3.54 7M 03 SET ENG NO.1 START 106.54 108.28 1.74 7M 06 SET ENG NO.2 START 108.50 108.00 0.50 1P18-049 CALL OUT [FLIGHT] 111.00 112.10 1.10 1.10 1P 12 MONITOR CALL-OUT 114.20 114.50 0.30 1P 16 MONITOR REPORT 116.50 117.90 1.40 1P 12 MONITOR CALL-OUT 123.40 124.70 1.30 1P 09 MONITOR REPORT 126.00 129.50 1.50 1.50 1P 09 MONITOR CALL-OUT 148.00 147.90 1.80 1P 02 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF BUG	100.00			160006	DESCENT AND APPROACH CHECKLIST - 2	
108.54 108.28 1.74 7M 96 SET_ENG_NO.2 START 108.50 109.00 0.50 1918-049 CALL_OUT_CFLIGHT] 111.00 112.10 1.10 19 12 MONITOR_CALL_OUT_CFLIGHT] 14.20 114.50 0.30 19 16 MONITOR_REPORT_CFLIGHT] 16.50 117.90 1.40 19 12 MONITOR_CALL_OUT_CFLIGHT] 123.40 124.70 1.30 19 09 MONITOR_CALL_OUT_CFLIGHT] 126.00 129.50 1.50 180007 DESCENT_AND_APPROACH_CFLIGHT - 3 128.00 129.50 1.50 19 02 MONITOR_CALL_OUT_CFLIGHT 148.00 147.90 1.80 19 14 MONITOR_CALL_OUT_CFLIGHT 148.00 150.57 2.57 3A 07 MON_Y-REF_BUG_CFLIGHT 150.50 150.57 1.50	102.00	102.00	0.90	19	11 MONITOR CALL-OUT	
108.50 109.00 0.50 19180049 CALL OUT [FLIGHT] 111.00 112.10 1	103.00	106.54	3.54	7M	03 SET ENG NO.1 START SW TO FLT	
111.00 112.10 1.1	106.54	108.28	1.74	7M		
114.20	108.50	109.00	0.50	19160	049 CALL OUT [FLIGHT]	
116.50 117.90 1.40 1.70 1.30 1.70 1.30 1.70 1.30 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.7	111.00	112.10	1.10	1 P	12 MONITOR CALL-OUT	
123.40 124.70 1.30 1P 09 MONITOR REPORT 126.00 180007 DESCENT AND APPROACH CHECKLIST - 3 128.00 129.50 1.50 1P 02 MONITOR CALL-OUT 148.00 147.90 1.90 1.90 1P 14 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF BUG	114.20	114.80	0.30	1 P	16 MONITOR REPORT	
126.00 160007 DESCENT AND APPROACH CHECKLIST - 3 128.00 129.50 1.50 1P 02 MONITOR CALL-OUT 148.00 147.90 1.90 1P 14 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF BUG	116.50	117.90	1.40	19	12 MONITOR CALL-OUT	
128.00 129.50 1.50 1P 02 MONITOR CALL-OUT 148.00 147.90 1.80 1P 14 MONITOR CALL-OUT 148.00 150.57 2.57 3A 07 MON Y-REF BUG	123.40	124.70	1.30	19	09 MONITOR REPORT	
148.00 147.90 1.90 1.90 1P 14 MONITOR CALL-OUT 148.00 150.67 2.57 3A 07 MON Y-REF BUG	126.00			160007	DESCENT AND APPROACH CHECKLIST - 3	
148.00 150.67 2.57 3A 07 MON Y-REF BUG	128.00	129.50	1.50	19	02 MONITOR CALL-OUT	
	146.00	147.90	1.90	19	14 MONITOR CALL-OUT	
	148.00	150.87	2.57	3A		

SINCE MISSION BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE TASK
148.00	150.57	2.57	3A OS SET V-REF BUQ
151.00	154.00	3.00	3A 13 CAPT CHECK F.O.<8 V-REF BUG SETTING
154.00	155.60	1.60	1P OS MONITOR REPORT
157.60	158.90	1.30	1P 02 MONITOR CALL-OUT
165.00			030007 ENGINE INSTRUMENT Scan
150.00			BOEVOS C/P EXT VIS SCAN
185.00			090051 FLIGHT INSTRUMENT Scam -a1
185.00	195.00	10.00	2J Q2 MON PITCH ATTITUDE INDIC
185.00	195.00	10.00	3L 02 MON VERTICAL SPEED INDIC
185.00	195.00	10.00	3A 10 MONITOR AIRSPEED INDIC
185.00	195.00	10.00	2K 14 MON MAP VIDEO
185.00	195.00	10.00	2K 48 MON STRAIGHT TREND VECTOR SYMBOL
185.00	195.00	10.00	ZK 33 MON CURVED TREND Vector symbols
195.00			180048 MON ADF/RMI-2
195.00			18DL91 HANDOFF TO ATL FINAL APPROACH CONTROLLER Vector to downwind
185.00	198.60	1.60	1D16XX01 MON IMPORMATION MANAGEMENT ATENSON
196.60	198.60	2.00	1016XX02 MON IMFORMATION MANAGEMENT DISPLAY [MODE-5 UPLINK PNDQ] AMBER
200.40	210.40	10.00	1016AA91 MONITOR UPLIME CALL- out from copilot
200.00			18DL8: ARM HEW DL MCP ALT
200.00	200.78	0.78	2H 31 MON ALT ENG MODE LT Blue - Alt eng mode Preselected
200.80	201.86	1.06	2H 34 READ ALT ENG VALUE ON DIGITAL INDIC
201.88	203.28	1.42	2H 28 PRESS ALT ENG MODE S SW
203.20	204.06	0.78	2H 30 MON ALT ENG MODE LT Orange – alt eng Mode armed
200.00			18BLO2 BEGIN TURN TO DOWN- Wind Leg
205.00			18DL82 ENGAGE DATA LINKED HEADING IM MCP
205.00	205.77	0.77	2H 17 MON TKA SEL MODE LT Blue - Tka sel mode Preselected
205.80	206.91	1.11	2M 20 READ TKA SEL VALUE Om digital indic
206.90	208.31	1.41	2H 14 PRESS TKA SEL MODE SW
208.30	209.07	0.77	2H 18 MON TKA SEL MODE LT Green - Tka sel mode Engaged
210.00			188LO3 DESCEND THRU 11000.
210.00			090051 FLIGHT INSTRUMENT SCAN -A1
210.00	220.00	10.00	2J 02 MON PITCH ATTITUDE INDIC
210.00	220.00	10.00	3L 02 MON VERTICAL SPEED INDIC
210.00	220.00	10.00	3A 10 MONITOR AIRSPEED INDIC
210.00	220.00	10.00	2K 14 MON MAP VIDEO

SINCE MISSI	ON START	ACTIVITY TIME	Or	TOOK	QUALITI	EVENT/P		IRE
210.00	220.00	10.00				2K	46	MON STRAIGHT TREND VECTOR SYMBOL
210.00	220.00	10.00				2K	**	MOM CURVED TREND VECTOR SYMBOLS
219.00						160092		ATL APPROACH
226.00						16DL93	MONI	TOR ATL APPROACH
220.00						090048	FL10	HT INSTRUMENT
220.00	250.00	30.00				2,	02	MOM PITCH ATTITUDE
220.00	250.00	\$0.00				3L	02	MON VERTICAL SPEED
220.00	250.00	30.00				SA	10	MONITOR AIRSPEED
220.00	250.00	30.00				2K	14	MON MAP YIDEO
220.00	250.00	30.00				2 K	46	MON STRAIGHT TREND VECTOR SYMBOL
220.00	250.00	\$0.00				2K	**	MOM CURVED TREND VECTOR SYMBOLS
240.00						90EV09	C/P	EXT VIS SCAN
250.00						090048		MT INSTRUMENT I -AZ
250.00	280.00	30.00				21	02	MON PITCH ATTITUDE
250.00	200.00	80.00				\$ L	02	MON VERTICAL SPEED
250.00	280.00	30.00				3A	10	MONITOR AIRSPEED
250.00	280.00	30.00				2K	14	MON MAP VIDEO
250.00	280.00	30.00				2K	46	MON STRAIGHT TREND VECTOR SYMBOL
250.00	280.00	30.00				2K	33	MON CURVED TREND VECTOR SYMBOLS
280.00						090048		NT INSTRUMENT 1 -A2
200.00	310.00	30.00				2,1	02	MON PITCH ATTITUDE
280.00	310.00	30.00				3L	02	MON VERTICAL SPEED
280.00	\$10.00	\$0.00				3A	10	MONITOR AIRSPEED
280.00	310.00	30.00				2 K	14	MON MAP VIDEO
280.00	310.00	30.00				2K	44	MON STRAIGHT TREND VECTOR SYMBOL
280.00	310.00	30.00				2K	**	MON CURVED TREND VECTOR SYMBOLS
\$10.00						000048		MT INSTRUMENT I +A2
310.00	340.00	\$0.00				2,1	02	MON PITCH ATTITUDE
310.00	340.00	30.00				3 L	02	MON VERTICAL SPEED
310.00	340.00	30.00				3A	10	MONITOR AIRSPEED
310.00	340.00	30.00				2K	14	MON MAP VIDEO
\$10.00	340.00	30.00				2K	46	MON STRAIGHT TRENS VECTOR SYMBOL
310.00	340.00	30.00				2K	**	MON CURVED TREND VECTOR SYMBOLS
340.00						090048		HT INSTRUMENT 1 -A2
340.00	370.00	\$0.00				2,1	02	MON PITCH ATTITUDE
340.00	370.00	\$0.00				31.	02	MON VERTICAL SPEED

SINCE MISSIC BEGINNING		CTIVITY IME	EVENT/PI		AE
340.00	370.00	30.00	3.4	10	MONITOR AIRSPEED
340.00	370.00	30.00	2 K	14	MON MAP VIDEO
340.00	370.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL
340.00	370.00	30.00	2K	11	MON CURVED TREND VECTOR SYMBOLS
288.00			020007	ENG! SCAN	NE INSTRUMENT
295.00			00EV09	C/P	EXT VIS SCAN
340.00			00EV04	C/P	EXT VIS SCAN
363.00			030007	ENG! SCAN	NE INSTRUMENT
370.00			16BL04	DESC	END THRU 8600.
370.00			160184	ALTI	TUDE STEP DOWN
370.00	371.60	1.80	101	6XX01	MON INFORMATION MANAGEMENT ATENSON
371.60	373.60	2.00	101	6XX02	MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PNDG] AMBER
\$75.40	379.40	4.00	101	64494	MONITOR UPLINK CALL- OUT FROM COPILOT
375.00			180L81	ARM DL M	NEW ICP ALT
375.00	375.78	0.78	2H	\$1	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED
375.80	376.86	1.06	2H	34	READ ALT ENG VALUE ON DIGITAL INDIC
376.88	378.28	1.42	2H	28	PRESS ALT ENG MODE S
378.28	378.06	0.78	2 H	30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED
385.00			000048		HT INSTRUMENT I -A2
385.00	415.00	30.00	2,1	02	MON PITCH ATTITUDE
385.00	415.00	30.00	31	02	MON VERTICAL SPEED
385.00	415.00	30.00	3A	10	MONITOR AIRSPEED
385.00	415.00	30.00	2K	14	MON MAP VIDEO
385.00	415.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL
385.00	415.00	30.00	2K	33	MON CURVED TREND VECTOR SYMBOLS
415.00			090048		HT INSTRUMENT
416.00	445.00	30.00	2,1	02	MON PITCH ATTITUDE
415.00	445.00	30.00	\$L	02	MON VERTICAL SPEED INDIC
415.00	445.00	30.00	3A	10	MONITOR AIRSPEED
415.00	445.00	30.00	2K	14	MON MAP VIDEO
415.00	445.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL
415.00	445.00	30.00	2K	**	MON CURVED TREND VECTOR SYMBOLS
445.00			090048		BHT INSTRUMENT 1 -A2
445.00	475.00	30.00	21	02	MON PITCH ATTITUDE INDIC
445.00	475.00	30.00	3 L	02	MON VERTICAL SPEED

SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
445.00	475.00	30.00	3A 10 MONITOR AIRSPEED INDIC
445.00	475.00	30.00	2K 14 MON MAP VIDEO
445.00	475.00	30.00	2K 46 MON STRAIGHT TREND Vector Symbol
445.00	475.00	30.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
475.00			090048 FLIGHT INSTRUMENT SCAN -A2
475.00	505.00	30.00	2J 02 MON PITCH ATTITUDE Indic
475.00	505.00	30.00	SL 02 MON YERTICAL SPEED Indic
475.00	505.00	30.00	3A 10 MONITOR AIRSPEED Indic
475.00	505.00	30.00	2K 14 MON MAP VIDEO
475.00	\$05.00	30.00	2K 40 MON STRAIGHT TREND YECTOR SYMBOL
475.00	\$05.00	30.00	2K 33 MON CURVED TREND Vector symbols
505.00			090051 FLIGHT INSTRUMENT SCAN -A1
\$05.00	515.00	10.00	2J 02 MON PITCH ATTITUDE INDIC
505.00	\$15.00	10.00	SL 02 MON VERTICAL SPEED INDIC
505.00	515.00	10.00	3A 10 MONITOR AIRSPEED IMDIC
	\$15.00	10.00	2K 14 MON MAP VIDEO
505.00 505.00	515.00	10.00	2K 48 MON STRAIGHT TREND YECTOR SYMBOL
505.00	515.00	10.00	2K 33 MON CURVED TREND Vector Symbols
185.00			GOEYOS C/P EXT VIS SCAN
430.00			030007 ENGINE INSTRUMENT
450.00			SCAN 16DL02 RECEIVE ATL ETIS
****			TERMINAL INFORMATION
458.60	460.20	1.60	1D16XXO1 MON INFORMATION MANAGEMENT ATENSON
460.20	482.20	2.00	1016XX08 MON YISUAL ALERT DSP [Mode-8 UPLINK PNDG] INDENTED BLUE
480.00			18BLOS CROSS FT HDB
480.00			180003 SET ALTIMETER BARO Setting to 29.84
480.00	483.50	3.50	IP 13 MONITOR CALL-OUT
484.00			140032 ALTIMETER BARO SET PROC.
484.00	446.65	2.65	3H 04 MONITOR ALTIMETER Baro setting indic
484.00	486.65	2.65	SH 03 SET ALTIMETER BARO SETTIMO CONTROL
\$13.00			030007 ENGINE INSTRUMENT SCAN
519.00			160041 MON VOR/RMI-1
518.00	521.00	2.00	5G 04 MON YOR POINTER NO.1 On yor/rmi 1 indic
519.00	\$21.00	2.00	SG GS MON YOR POINTER NO.2 ON YOR/RMI 1 INDIC
520.00			16DL05 VECTOR FOR BASE LEG
520.00	\$21.60	1.60	1D16XX01 MON INFORMATION
			MA NAGEMENT ATENSON
821.60	523.60	2.00	1D16XXC2 MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDG) AMBER

SINCE MISSIC BEGINNING	N START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
525.40	528.40	3.00	1D18AA88 MONITOR UPLINK CALL- OUT FROM COPILOT
523.00			18DL82 ENGAGE DATA LINKED Heading in MCP
\$23.00	\$23.77	0.77	2M 17 MON TKA SEL MODE LT Blue - TKA SEL MODE PRESELECTED
\$23.80	524.01	1.11	2H 2G READ TKA SEL VALUÉ om digital indic
524.90	\$28.31	1.41	2H 14 PRESS TKA SEL MODE
526.30	527.07	0.77	2H 18 MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED
\$23.00			18BLOS BEGIN TURN TO BASE
\$40.00			140023 REPORT 1000 FT TO LEVEL OFF
642.00	543.70	1.70	1P 11 MONITOR CALL-OUT
\$50.00			ODEYOS C/P EXT YIS SCAN
\$55.00			090051 FLIGHT INSTRUMENT SCAN -A1
\$55.00	\$65.00	10.00	2J 02 MON PITCH ATTITUDE INDIC
585.00	565.00	10.00	SL OZ MON YERTICAL SPEED INDIC
555.00	565.00	10.00	3A 10 MONITOR AIRSPEED Indic
555.00	565.00	10.00	2K 14 MON MAP VIDEO
\$55.00	\$45.00	10.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
555.00	\$65.00	10.00	2K 38 MOM CURVED TREND VECTOR SYMBOLS
585.00			160041 MON YOR/RM!-1
585.00	\$67.00	2.00	SQ 04 MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
585.00	\$67.00	2.00	SG OS MON VOR POINTER NO.2 ON VOR/RMI 1 INDIC
568.00			180042 MON ADF/RMI-1
569.00	\$71.00	2.00	50 28 MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC
569.00	671.00	2.00	5D 29 MON ADF POINTER NO.2 ON ADF/RMI 1 INDIC
\$70.00			15DL96 VECTOR TO FINAL APPR
\$70.00	\$71.60	1.00	1D16XX01 MON INFORMATION MANAGEMENT ATENSON
571.60	\$73.60	2.00	1D16XXO2 MGN INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDG) AMBER
\$75.40	584.40	9.00	1D16AA86 MONITOR UPLINK CALL- OUT FROM COPILOT
584.40	591.40	7.00	1016AA97 MOMITOR UPLINK CALL- OUT FROM COPILOT
575.00			10DL82 ENGAGE DATA LINKED HEADING IN MCP
\$75.00	\$75.77	0.77	ALL AR MAN THE SEL MARE LT
575.80	\$76.91	1.11	2H 2O READ TKA SEL VALUE OM DIGITAL INDIC
576.90	578.31	1.41	AU AA BREER TYA SEL MARE
678.30	579.07	0.77	ALL AS MAN THE BEL MARE 17
\$75.00			168L07 TURN TO INTERCEPT FINAL APPR. COURSE
585.00			180083 ARM LAND MODE

SINCE MISSIO BEGINNING	N START END	ACTIVITY TIME	EVENT/PI		ŧ
\$85.00	587.13	2.13	2Н	10	PRESS LAND MODE SW
587.20	588.25	1.05	2H		MON LAND MODE LT PRANGE - LAND MODE ARMED
597.00			160034	TUNE /	TLANTA TOWER
800.00			180070		T INSTRUMENT -A1, PILOT
800.00	610.00	10.00	2K	14	MON MAP VIDEO
600.00	610.00	10.00	2K		MON STRAIGHT TREND /ECTOR SYMBOL
600.00	610.00	10.00	2K		MON CURVED TREND /ECTOR SYMBOLS
600.00	810.00	10.00	21		MON FLT PATH ANGLE
600.00	610.00	10,00	21		MON FLT PATH ACCEL
600.00	610.00	10.00	21	01	MON ROLL ATT INDIC
800.00	610.00	10.00	21	19	MON PITCH REF INDIC
800.00	610.00	10.00	3A		MONITOR AIRSPEED
607.00			180073		T INSTRUMENT -A1, COPILOT
610.00			180084		NE AN ALT IN EL MODE
610.00	610.78	0.78	2 H		MONITOR ALT ENG MODE LT GREEN - ALT ENG MODE ENGAGED
611.00	811.77	9.77	2 H	- · · · · ·	MONITOR FPA SEL MODE LT DARK - FPA SEL MODE DISENGAGED
610.00			168108	BEGIN TO 210	OFF AT 8000 FT Decel from 250) KCAS
617.00			180073		INSTRUMENT A1, COPILOT
613.00			180085		NEW SPEED WINDOW
613.00	615.45	2.46	2H	47	ROTATE CAS EMF KNOS
613.00	614.04	1.04	2H		READ CAS ENG VALUE ON DIGITAL INDIC
815.50	616.28	0.78	2H	L	MON CAS ENG MODE T GREEN - CAS MODE ENGAGED
623.00			180088	CAPTUR	E LOCALIZER
623.00	625.10	2.10	2,1		MON ILS BOX
825.00	626.50	1.50	1P	02	MONITOR CALL-OUT
825.00	825.77	0.77	2 H	Ģ	MON TKA SEL MODE LT DARK - TKA SEL MODE DISENGAGED
626.00			180071	FLIGHT	TINSTRUMENT
628.00	656,00	30.00	2K		MON MAP VIDEO
626.00	656.00	30.00	2K		MON STRAIGHT TREND
626.00	656.00	30.00	2K		MON CURVED TREND VECTOR SYMBOLS
626.00	656.00	30.00	3 1	18	MON ILS BOX
626.00	656.00	30.00	2,1	04	MON FLT PATH ACCEL
628.00	656.00	30.00	2,5	01	MON ROLL ATT INDIC
628.00	658.00	30.00	2,1	19	MON PITCH REF INDIC
828.00	656.00	30.00	3A		MONITOR AIRSPEED
627.00			180073	FLIGHT	INSTRUMENT A1, COPILOT

SINCE MISS BEGINNING	ION START	ACTIVITY Time	EVENT/PROCEDURE Task
637.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
\$43.00			160045 AMMUNCIATOR RECALL
647.00			180073 FLIGHT INSTRUMENT 8CAN -A1, COPILOT
855.00			160041 MON VOR/RMI-1
655.00	657.00	2.00	SQ 04 MON YOR POINTER NO.1 ON YOR/RMI 1 INDIC
655.00	657.00	2.00	SG OS MON VOR POINTER MO.2 ON VOR/AMI 1 INDIC
657.00			160042 MON ADF/RM1-1
657.00	659.00	2.00	SD 28 MON ADF POINTER MO.1 ON ADF/AM1 1 INDIC
657.00	659.00	2.00	SD 29 MON ADF POINTER MO.2 On ADF/AMI 1 INDIC
657.00		•	160048 MON ADF/RM1-2
660.00			168L09 REACH 210 KGAS
660.00		æ	180087 CAPTURE GLIDE BLOPE
660.00	662.19	2.10	2J 13 MON ILS BOX Indic
862.00	663.05	1.05	2H 11 MON LAND MODE LT Green – Land Mode Engaged
664.00			18DL80 MONITOR ATL TOWER ON 119.5/VMF-2R
670.00			18DL61 LANDING CLEARANCE
670.00	671.60	1.80	1D16XX01 MON INFORMATION Management Atenson
671.60	673.60	2.00	1D16XXO2 MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDG) AMBER
675.40	685.40	10.00	1D16AA40 MONITOR UPLINK CALL- OUT FROM COPILOT
864.00			16BL10 CROSS BAHRR
684.00			160011 SET FLAPS TO FLAPS 1
684.00	684.70	0.70	1P160058 CALL OUT -(FLAPS 1)
689.00	889.70	0.70	1P 10 MONITOR CALL-OUT
691.00	691.44	0.44	7F SO MON ENG NO 2 EPR IND
691.00	891.44	0.44	7F 26 MON ENG NO 1 EPR IND
670.00			180071 FLIGHT INSTRUMENT SCAN -AZ, PILOT
670.00	700.00	30.00	2K 14 MON MAP VIDEO
670.00	700.00	30.00	2K 46 MON STRAIGHT TREND Vector symbol
670.00	700.00	30.00	2K 38 MON CURVED TREND Vector symbols
670.00	700.00	30.00	2J 18 MOW ILS BOX INDIC
670.00	700.00	\$0.00	2J 94 MON FLT PATH ACCEL INDIC
670.00	700.00	30.00	2J OI MON ROLL ATT INDIC
670.00	700.00	30.00	2J 19 MON PITCH REF INDIC
870.00	700.00	30.00	SA 10 MONITOR AIRSPEED INDIC
685.00			16BL11 REACH 180 KGAS
694.00			160017 SET FLAPS TO FLAPS S
894.00	694.70	0.70	1P160061 CALL OUT -[FLAPS S]
694.00			160018 FLAP SET PROCEDURE
700.03	700.73	0.70	1P 10 MONITOR CALL-OUT
701.00	701.44	0.44	7F 25 MON ENG NO 1 EPR IND
701.44	701.88	0.44	7F 30 MON ENG NO 2 EPR IND

SINCE MISS BEGINNING	ION START	ACTIVITY Time		PROCED SK	URE
699.00			030007		INE INSTRUMENT N
700.00			180071		GHT INSTRUMENT N -A2, PILOT
700.00	730.00	30.00	2K	14	MON MAP VIDEO
700.00	730.00	30.00	2 K	46	MON STRAIGHT TREND VECTOR SYMBOL
700.00	730.00	30.00	2K	33	MON CURVED TREND VECTOR SYMBOLS
700.00	730.00	30.00	2,1	13	MON ILS BOX
700.00	730.00	30.00	2,5	04	MON FLT PATH ACCEL INDIC
700.00	730.00	30.00	24	01	MON ROLL ATT INDIC
700.00	730.00	30.00	24	19	MON PITCH REF INDIC
700.00	730.00	30.00	3A	10	MONITOR AIRSPEED
708.00			16BL12	REA	CH 170 KCAS
710.00			180073		BHT INSTRUMENT N -A1, COPILOT
720.00			180073		BHT INSTRUMENT N -A1, COPILOT
730.00			180073		AHT INSTRUMENT N -A1, COPILOT
730.00			00EY21	PIL	OT EXT VIS SCAN
730.00	735.00	\$.00	8.4	10	PILOT EXTERNAL VISION SCAN
740.00			160069	SET	SPEED BRAKES
740.00	743.26	3.26	4F	02	SET SPEED BRAKE LEVER TO ARM
740.00	740.73	0.73	4F	07	MONITOR SPEED BRAKE LEVER ARMED LT GREEN
744.00			160048	MON	ADF/RMI-2
745.00			180071		NT INSTRUMENT I -A2, PILOT
745.00	775.00	30.00	2K	14	MON MAP VIDEO
745.00	775.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL
745.00	775.00	30.00	2K	33	MON CURVED TREXD VECTOR SYMBOLS
745.00	775.00	30.00	2,1	1\$	MON ILS BOX
745.00	775.00	30.00	2,1	04	MON FLT PATH ACCEL
745.00	775.00	30.00	2,1	01	MON ROLL ATT INDIC
745.00	775.00	30.00	2,1	10	MON PITCH REF INDIC
745.00	775.00	30.00	3A	10	MONITOR AIRSPEED INDIC
745.00			16BL13		S REIFF
748.00			160070		AUTO BRAKES
755.00			00EV01		EXT VIS SCAN
765.00			180073	8CAI	HT !NSTRUMENT
775.00			180073	SCAI	INT INSTRUMENT
775.00			180071	SCAI	HT INSTRUMENT
778.00	805.00	10.00	2K	14	MON MAP VIDEO
775.00	805.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL
775.00	805.00	30.00	28	33	MON CURVED TREND VECTOR SYMBOLS
775.00	805.00	\$0.00	2,1	18	MON ILS BOX INDIC

SINCE MISSIO BEGINNING	N START	ACTIVITY TIME	EVENT/PROCEDURE Task
775.00	\$05.00	30.00	2J 04 MON FLT PATH ACCEL Indic
775.00	805.00	30.00	2J 01 MON ROLL ATT INDIC
775.00	805.00	30.00	2J 19 MON PITCH REF INDIC
775.00	\$05.00	30.00	3A 10 MONITOR AIRSPEED INDIC
\$00.00			180058 REPORT RUNWAY IN SIGHT
802.00	803.00	1.00	1P 10 MONITOR CALL-OUT
805.00			OCEY21 PILOT EXT VIS SCAN
805.00	\$10.00	5.00	SA 10 PILOT EXTERNAL VISION SCAN
808.00			180018 FLAP SET PROCEDURE
814.03	814.73	0.70	1P 10 MONITOR CALL-OUT
815.00	815.44	0.44	7F 25 MON ENG NO 1 EPR IND
815.44	815.88	0.44	7F 30 MON ENG NO 2 EPR IND
808.00			160025 SET FLAPS TO FLAPS
808.00	808.70	0.70	19180062 CALL OUT -[FLAPS 18]
812.00			160042 WON ADF/RMI-1
812.00	814.00	2.00	5D 28 MON ADF POINTER NO.1 ON ADF/AMI 1 NDIC
812.00	814.00	2.00	SD 28 MON ADF POINTER NO. 2 ON ADF/RMI 1 INDIC
815.00			160059 CROSS RWY OF OUTER MARKER
815.00	815.72	0.72	3V 11 MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL
817.00	818.80	1.80	1P16007S CALL OUT - CREAR DOWN AND LANDING CHECK- LIST)
815.00	817.10	2.10	SM OS START ELAPSED TIME Indic
015.00			16BL14 CROSS CATTA LOM-GEAR THEN EXTENDED AND 135 KCAS MAINTAINED
815.00			180048 MON RADIO ALTIMETER
820.00			160060 EXTEND LANDING GEAR
820.00			180071 FLIGHT IMSTRUMENT SCAN -A2, PILOT
\$20.00	850.00	30.00	2K 14 MON MAP VIDEO
020.00	850.00	30.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
820.00	\$ 50.00	30.00	2K 33 MON CURVED TREND Vector symbols
820.00	\$50.00	30.00	2J 13 MON ILS BOX INDIC
820.00	850.00	30.00	2J 04 MON FLT PATH ACCEL INDIC
820.00	850.00	30.00	2J O1 MON ROLL ATT INDIC
820.00	\$50.00	30.00	2J 19 MON PITCH REF INDIC
820.00	850.00	30.00	3A 10 MONITOR AIRSPEED Indic
845.00			180062 LANDING CHECKLIST
647.00	847.60	0.60	1P 10 MONITOR CALL-OUT
847.60	848.00	0.40	1P 14 MONITOR CALL-OUT
850.00	850.70	0.70	1P 10 MONITOR CALL-OUT
851.00	852.30	1.30	1P160079 CALL OUT -(ARMED - GREEN LIGHT)
854.50	\$55.20	0.70	1P 10 MONITOR CALL-OUT
855.20	856.20	1.00	1P 10 MONITOR CALL-OUT
858.20	858.60	0.40	1P 14 MONITOR CALL-OUT

SINCE MISSIO		TIVITY ME	EVENT/PI	
858.60	859.70	1.10	12	12 MONITOR CALL-OUT
850.00			00EV21	PILOT EXT VIS SCAN
850.00	855.00	5.00	8.4	10 PILOT EXTERNAL VISION SCAN
855.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
855.00	885.00	30.00	2K	14 MON MAP VIDEO
855.00	885.00	30.00	2 K	46 MON STRAIGHT TREND VECTOR SYMBOL
855.00	885.00	30.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
655.00	885.00	30.00	24	13 MON ILS BOX INDIC
855.00	885.00	30.00	2,1	04 MON FLT PATH ACCEL
455.00	885.00	\$0.00	2,	01 MON ROLL ATT INDIC
855.00	885.00	30.00	2,	18 MON PITCH REF INDIC
855.00	885.00	30.00	3A	10 MONITOR AIRSPEED
865.00			00EV02	C/P EXT VIS SCAN
877.00			180073	FLIGHT INSTRUMENT
			030007	SCAN -A1, COPILOT ENGINE INSTRUMENT
889.00			180071	SCAN FLIGHT INSTRUMENT
885.00				SCAN -AZ, PILOT
##5.00	915.00	30.00	2K	14 MON MAP VIDEO
\$\$5.00	915.00	30.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
885.00	915.00	30.00	2K	35 MON CURVED TREND VECTOR SYMBOLS
885.00	915.00	30.00	21	13 MON ILS BOX INDIC
885.00	915.00	30.00	2,1	04 MON FLT PATH ACCEL INDIC
885.00	915.00	30.00	2,1	01 MON ROLL ATT INDIC
885.00	915.00	30.00	2,3	18 MON PITCH REF INDIC
885.00	915.00	30.00	34	10 MONITOR AIRSPEED INDIC
895.00			180049	MON RADIO ALTIMETER
900.00			00EV04	C/P EXT VIS SCAN
923.00			180085	DESCEND THRU -DECISION HEIGTH
925.58	926.38	0.80	18	11 MONITOR CALL-OUT
915.00			00EV21	PILOT EXT VIS SCAN
915.00	920.00	5.00	8A	10 PILOT EXTERNAL VISION SCAN
920.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
920.00	950.00	\$0,00	2K	14 MON MAP VIDEO
920.00	850.00	30.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
920.00	950.00	30.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
920.00	950.00	30.00	2,1	13 MON !LS BOX
920.00	150.00	30.00	2,	04 MON FLT PATH ACCEL
990 00	950.00	\$0.00	2,1	01 MON ROLL ATT INDIC
920.00		10.00	21	19 MON PITCH REF INDIC
920.00	950.00	30.00	34	10 MONITOR AIRSPEED
920.00	850.00	•••••		INDIC

SINCE MISS	BION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
925.00	•		160064 CROSS RWY OR MIDDLE Marker
925.00	926.91	1.81	3V 13 MONITOR MIDDLE Marker Annun LT On And Audible Signal
926.00			168L15 CROSS MIDDLE MARKER
930.00			OCEYOZ C/P EXT YIS SCAN
940.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
941.00			16BL16 CROSS RW THRESHOLD
950.00			16BL17 TOUCHDOWN
\$50.00			180038 TOUCHDOWN AND ROLL- OUT, AGCS AUTO LAMD Mode Controls A/C Untill 30KTS
950.00	980.00	30.00	ØA 11 PILOT EXTERNAL VISION SCAN
950.00	980.00	30.00	2J 18 MOR TV VIDEO
950.00	980.00	30.00	2J 40 MON EADI RWWY
850.00	180,00	30.00	2J 41 MON EAD! DRIFT INDIC
950.00	980.00	30.00	7F 25 MON ENG NO 1 EPR IND
950.00	980.00	\$0.00	7F 30 MON ENG NO 2 EPR IND
\$80.00	••••		180036 TOUCHDOWN AND ROLL- OUT, AGCS AUTO LAND Mode Controls A/C Until 30rts
**0.00	1010.00	30.00	8A 11 PILOT EXTERNAL VISION SCAN
880.00	1010.00	30.00	2J 18 MON TV VIDEO
980.00	1010.00	30.00	2J 40 MON EADI RWWY
980.00	1010.00	30.00	2J 41 MON EAD! DRIFT INDIC
380.00	1010.00	30.00	7F 28 MON ENG NO 1 EPR IND
		30.00	7F 30 MON ENG NO 2 EPR IND
\$80.00	1010.00	30.00	180037 DISENGAGE AGCS
1010.00			2H 10 PRESS LAND MODE SW
1010.00	1012.13	2.13	
1012.13	1013.16	1 . 05	2H 13 MON LAND MODE LT Dark - Land Mode Disengaged
1013.18	1014.62	1.44	2H O1 PRESS ATT CWS MODE SW
1014.62	1015.67	1.05	2H 02 MON ATT CWS MODE LT GREEN – ATT CWS ENGAGED
1015.67	1017.01	1.34	2H O9 MON AUTO MODE LT Dark - auto mode Disengaged
1010.00	1020.00	10.00	4A 64 MANUALLY CONTROL A/C
1020.00	1025.00	5.00	4A 64 MANUALLY CONTROL A/C
1010.00			GOEV23 PILOT EXT VIS SCAN
1010.00	1025.00	15.00	8A 10 PILOT EXTERNAL Vision Scan
984.00			16DL71 HANDOFF TO GROUND
984.00	985.60	1.60	1D16XX01 MON INFORMATION MANAGEMENT ATENSON
₩5.60	987.60	2.00	1D16XX02 MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PNDG] AMBER
989.40	997.40	8.00	1D18AA87 MONITOR UPLINK CALL- OUT FROM COPILOT
1000.00			18DL72 TUNE AND MONITOR ATL GRMD ON 121.8/VHF-2L
1008.00			16DL73 TAXI CLEARANCE FROM

SINCE MIS BEGINNING	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
1009.00	1010.80	1.60	1016XX01 MON INFORMATION MANAGEMENT ATENSON
1010.60	1012.60	2.00	1D16XXO2 MON INFORMATION MANAGEMENT DISPLAY (MODE-8 UPLIMK PHDG] AMBER
1014.40	1019.40	S.00	1D18AA88 MONITOR UPLINK CALL- OUT FROM COPILOT

B.4 NORMAL ILS APPROACH—ADVANCED FLIGHT DECK Nonflying Pilot

MOV10 1986

MISSIC	ON SCENARIO REPORT
MISSION - CUI	RRENT NAS 8 ap-base ln.
CONFIGURATION	N - 737 ADVCHD FLT DCK
CREWMEMBER -	COPILOT

TIME INTERV SINCE MISSI BEGINNING		TOTAL ACTIVITY TIME	FLIGHT PHASE EYENT/PROCEDURE TASK
0.00	25		18BL BASELINE AFD ILS APP
0.00			168L01 CROSS LOGEN INTERSEC TION AT 250 KCAS AND 14000 FEET.ATL CENTR HAS PREVIOUSLY INSTR UCTED NASA 513 TO CONTACT ATL APPR AT LOGEN.VMF-2R HAS AL- READY BEEN TUNED TO CORRECT FREQ-126.9.
0.00			180090 CONTACT ATL APPROACH ON 128.9
0.00	1.45	1.45	18 06 SET VHF-2 COMM TFR SW TO RIGHT
2.40	9.40	7.00	1A 28 ACTUATE COMME 2 PUSH- TO-TALK SW
2.40	●.40	7.00	1P16XX80 ATL APP, MASA 515 DES CENDING TO 11000 FT WITH INFO LIMA.
9.40	13.40	4.00	1P16YY80 MASA S1S,ATL APPR, Roger.
0.00			180080 DROP OUT OF HOR AND YERT PATH TO FPA, TKA, AND CAS AUTO FLT MODES ENTER FPA IN MCP
10.00			090048 FLIGHT INSTRUMENT Scan –A2
40.00			090048 FLIGHT INSTRUMENT Scan –A2
70.00			090048 FLIGHT INSTRUMENT SCAN -A2
15.00			180013 SET NAY-1 TO RUNWAY SL ILS -108.3
15.00	21.00	6.00	88 OS RETREIVE CHARTS
21.00	26.00	5.00	88160003 REVIEW CHARTS TO DETERMINE RUNWAY OS ILS FREQ AND REG VOR FREG
26.00	31.08	\$.08	SU 01 MON WAY-1 FREQ INDIC
26.00	29.00	3.00	SU 02 SET MAY-1 FREQ - WHOLE NO.S
29.00	31.08	2.08	SU 03 SET MAY-1 FREG - Fractions
31.50	34.40	2.90	1P160050 CALL OUT -[RUMWAY 8L LS 8 ON MAY 1]
31.50	33.77	2.27	SH 02 MON YOR POINTER NO.1 On Yor/RMI 2 INDIC
80.00			ODEVSO PILOT EXT VIS SCAN
38.00			180039 SET ADF-1 TO CATTA -875KC
38.00	41.00	3.00	SD 17 SET ADP NO.1 BFO SW TO OFF
41.00	41.77	0.77	SD 22 MON ADF NO.1 TUNING Meter indic
41.77	43.75	1.96	SD 01 MONITOR ADF NO 1 FREQ INDIC
43.75	45.73	1.98	SD 02 SELECT ADF NO 1 FREQ INDIC
45.73	47.23	1.50	1P160065 CALL OUT -[CATTA OM ADF-1]
49.00			180040 SET ADF-2 TO FLAMC -344

SINCE MISSION BEGINNING	START END	ACTIVITY Time	EVENT/PROCEDURE Task
49.00	51.89	2.69	SE 17 SEL ADF NO.2 FREQ Band .1940
52.00	53.88	1.96	SE 01 MON ADF NO 2 FREQ. INDIC
52.00	53.98	1.98	SE 02 SELECT ADF NO 2 FREQ
\$2.00	54.28	2.26	SE 20 MOM ADF NO.2 TUNING METER INDIC
\$4.00	55.50	1.50	1P160066 CALL OUT -[FLAMC ON ADF-2]
58.00			180038 SET DECISION HEIGTH ON RADIO ALTIMETER
84.00			030007 ENGINE INSTRUMENT Scan
64.00	64.44	0.44	7F 25 MON ENG NO 1 EPR IND
64.00	64.44	0.44	7F 30 MON ENG NO 2 EPR IND
64.44	64.88	0.44	7F 21 MON NO 1 ENG N1 IND
84.44	84.88	0.44	7F 22 MON NO 2 ENG H1 IND
04.86	65.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
64.88	65.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
65.32	65.76	0.44	7F 23 MON NO 1 ENG N2 IND
65.32	65.76	0.44	7F 24 MON NO 2 ENG N2 IND
65.76	66.20	0.44	7F 33 MON ENG NO 1 FUEL FLOW INDIC
65.70	66.20	0.44	7F 34 MON ENG NO 2 FUEL FLOW INDIC
66.20	66.64	0.44	7F 09 MON NO 1 ENG OIL PRESS INDIC
66.64	67.08	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC
88.84	67.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
67.08	67.52	0.44	7F 11 MON NO 1 ENG O'LL GTY INDIC
87.08	87.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
67.52	67.98	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
67.52	67.96	0.44	7F 20 MON NO 2 ENG VIBR Amplitude indic
70.00			180005 DESCENT AND APPROACH CHECKLIST - 1
70.00	72.00	2.00	1P 02 MONITOR CALL-OUT
72.00	77.90	5.90	88 02 RETREIVE CHECKLIST
78.00	83.00	5.00	88 OS FIND CHECKLIST IN Handbook
83.00	85.00	2.00	88 OS READ MEXT !TEM ON CMECKLIST
\$ 5.00	86.00	1.00	19160044 CALL OUT-[ANTI-ICE]
8 7.00	87.80	0.80	1P160045 CALL OUT-[NOT REQD]
88.00	90.00	2.00	8B OS READ MEXT ITEM ON Checklist
•0.00	91.80	1.80	1P180048 CALL OUT -[AIR CON- DITIONING AND PRES- SURIZATION]
92.00	94.87	2.67	7D 69 MON PASS CAB TEMP CONT SETTING
94.67	98.59	2.02	7D 70 MON CONT CAB TEMP CONT SETTING
96.89	97.86	1.17	7E OS MON LDG ALT CHTR
98.00	98.40	0.40	1P160047 CALL OUT [SET]
100.00			160006 DESCENT AND APPROACH CHECKLIST • 2
100.00	102.00	2.00	8B 03 READ NEXT ITEM ON CHECKLIST

SINCE MISSIC BEGINNING	ON START	ACTIVITY TIME	EVENT/PROCEDURE TASK
102.00	102.90	0.90	1P160048 CALL OUT-[START Switches]
108.50	109.00	0.50	1P OS MONITOR REPORT
109.00	111.00	2.00	88 03 READ MEXT ITEM ON CHECKLIST
111.00	112.10	1.10	1P16050 CALL OUT-[IMBOARD LANDING LIGHTS]
112.00	114.20	2.20	7G 17 SET LANDING LIGHTS SW TO ON
114.20	114.50	0.30	1P180051 CALL OUT -[ON]
114.50	116.50	2.00	88 03 READ MEXT ITEM ON CHECKLIST
116.50	117.90	1.40	1P160052 CALL OUT -(ALTIMETER And Instruments)
118.00	120.37	2.37	3H 02 MON CORR BARÓ ALT INDIC
120.37	123.37	3.00	3H 95 F.O. CHECK CAPT<8 Altimeter baro set And Indicated Alti- Tude
123.40	124.70	1.30	1P1600\$3 CALL OUT-[SET AND CROSSCHECKED]
128.00			180007 DESCENT AND APPROACH CHECKLIST - 3
126.00	128.00	2.00	OB OS READ MEXT ITEM ON CHECKLIST
120.00	129.50	1.50	1P160054 CALL OUT-[EPR AND IAS BUGS]
120.00	131.00	3.00	88010004 RETREIVE FLIGHT Planning Ref. Data Manual
131.00	136.00	5.00	88180001 DETERMINE GO-AROUND EPR BUG SET VALUE
136.00	138.32	2.32	7F 28 SET ENG NO 1 EPR BUG
136.32	138.32	2.00	7F 27 MON ENG NO 1 EPR BUG
138.32	140.84	2.32	7F 28 BET ENG NO 2 EPR BUG
138.64	140.64	2.00	7F 29 MON ENG NO 2 EPR BUG
141.00	146.00	5.00	88180002 DETERMINE LANDING V-REF BUG SET VALUE
146.00	148.57	2.57	3A 07 MON V-REF BUG Setting
146.00	148.57	2.57	SA OS SET V-REF BUG
146.00	147.90	1.90	1P160055 CALL OUT -[V-REF IS XXX KNOTS]
151.00	154.00	3.00	3A 12 F.O. CHECK CAPTIS V-REF BUG SETTING
154.00	185.60	1.00	1P180058 CALL OUT -[BUGS SET AND CROSS-CHECKED]
155.60	187.80	2.00	8B OS READ MEXT ITEM ON CHECKLIST
155.00	186.90	1.30	1P160057 CALL OUT -[CHECKLIST COMPLETED]
157.80	160.60	3.00	es de stow checklist
160.60	162.60	2.00	88010005 STOW FLIGHT PLANNING REF. DATA MANUAL
165.00			030007 ENGINE INSTRUMENT Scan
185.00	165.44	0.44	7F 25 MON ENG NO 1 EPR IND
165.00	165.44	0.44	7F 30 MON ENG NO 2 EPR IND
165.44	165.88	0.44	7F 21 MON NO 1 ENG N1 IND
165.44	165.00	0.44	7F 22 MON NO 2 ENG N1 IND
165.88	188.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
165.88	166.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
186.32	166.76	0.44	7F 23 MON NO 1 ENG M2 IND

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
166.32	166.76	0.44	7F 24 MON NO 2 ENG N2 IND
166.76	187.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic
166.76	167.20	0.44	7F 34 MON ENG NO 2 FUEL Flow indic
187.20	167.64	0.44	7F 09 MON NO 1 ENG OIL Press indic
167.64	168.08	0.44	7F 10 MON NO 1 ENG OIL Temp indic
167.64	168.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
160.08	168.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
168.08	168.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
168.52	168.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
100.52	168.96	0.44	7F 20 MON NO 2 ENG VIBR Amplitude Indic
150.00			ODEYOS C/P EXT YIS SCAN
150.00	175.00	25.00	GA 11 PILOT EXTERNAL Vision Scan
185.00			0900S1 FLIGHT INSTRUMENT SCAN -A1
195.00			180048 MON ADF/RMI-2
195.00	197.26	2.20	SE 28 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
195.00			180091 HANDOFF TO ATL FINAL APPROACH CONTROLLER
195.00	207.00	12.00	1P16XX91 M \$18.TURM RT MDQ270 DESCMD AND MAINTAIN GOOD FT.CONTACT ATL APPR ON 127.25.
207.00	214.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
207.00	214.00	7.00	1P16YY91 515,ROGER,HDG 270. Maintain 6000,APPR On 127.25.
200.00			1800\$1 ENTER/ARM NEW ALT IN MCP
200.00			16BLO2 BEGIN TURN TO DOWN- WIND LEG
205.00			180082 ENTER NEW MEADING IN MCP
210.00			16BLO3 DESCEND THRU 11000.
210.00			0900S1 FLIGHT INSTRUMENT Scan — A1
219.00			160092 TUNE ATL APPROACH OM 127.25
219.00	223.88	4.88	18 O1 MON YMF-2L FREQ IND
219.00	221.90	2.90	1B 02 SET VMF-2L FREQ- Whole MO.S
221.88	223.86	1.00	1B OS SET WHF-2L FREQ - Fractions
226.00			180093 CONTACT ATL APPROACH ON 127.25
226.00	227.49	1.49	1B OS SET VHF-2 COMM TFR SW TO LEFT
228.40	231.90	3.50	1A 10 ACT PUSH-TO-TALK SW
228.40	231.90	3.50	1P10XX93 ATL APPR.MASA 515 Descending to 0000.
231.90	235.90	4.00	1P16YY90 NASA 515,ATL APPR, Roger.
220.00			090048 FLIGHT INSTRUMENT Scan -A2
240.00			ODEVOD C/P EXT VIS SCAN

SINCE MISS BEGINNING	ION START	ACTIVITY TIME	EVENT/PR Task	
240.00	285.00	45.00	8 A	12 PILOT EXTERNAL VISION SCAN
250.00			090048	FLIGHT INSTRUMENT SCAN -A2
280.00			090048	FLIGHT INSTRUMENT SCAN -A2
\$10.00			090048	FLIGHT INSTRUMENT SCAN -A2
340.00			090048	FLIGHT INSTRUMENT SCAN -A2
288.00			030007	ENGINE INSTRUMENT SCAN
288.00	288.44	0.44	78	25 MON ENG NO 1 EPR IND
288.00	208.44	0.44	7.5	30 MON ENG NO 2 EPR IND
208.44	200.00	0.44	7.5	21 MON NO 1 ENG N1 IND
288.44	288.88	0.44	7 F	22 MON NO 2 ENG N1 1ND
288.88	289.32	0.44	7F	31 MON ENG NO 1 EXH GAS TEMP IND
288.88	289.32	0.44	75	32 MON ENG NO 2 EXH GAS TEMP IND
289.32	289.76	0.44	77	23 MON NO 1 ENG N2 IND
289.32	289.76	0.44	75	24 MON NO 2 ENG N2 IND
289.76	290.20	0.44	7F	33 MON ENG NO 1 FUEL FLOW INDIC
289.76	290.20	0.44	7F	34 MON ENG NO 2 FUEL FLOW INDIC
290.20	290.64	0.44	7.5	09 MON NO 1 ENG OIL PRESS INDIC
290.84	291.08	0.44	7F	10 MON NO 1 ENG OIL TEMP INDIC
290.64	291.08	0.44	7F	18 MON NO 2 ENG OIL TEMP INDIC
291.00	201.52	0.44	78	11 MON NO 1 ENG OIL GTY
291.08	201.52	0,44	7#	19 MON NO 2 ENG OIL QTY INDIC
291.52	291.96	0.44	7#	12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
291.52	291.96	0.44	77	20 MON NO 2 ENG VIBR AMPLITUDE INDIC
295.00			604300	C/P EXT VIS SCAN
295.00	340.00	45.00	8A	12 PILOT EXTERNAL VISION SCAN
340.00			00EV04	C/P EXT VIS SCAN
340.00	360.00	20.00	8A	10 PILOT EXTERNAL VISION SCAN
363.00			030007	ENGINE INSTRUMENT SCAN
363.00	363.44	0.44	7#	25 MON ENG NO 1 EPR IND
383.00	363.44	0.44	7#	30 MON ENG NO 2 EPR IND
383.44	303.88	0.44	76	21 MON NO 1 ENG N1 1ND
363.44	163.66	0.44	7.5	22 MON NO 2 ENG N1 IND
103.88	364.32	0.44	7#	31 MON ENG NO 1 EXH GAS TEMP IND
363.88	364.32	0.44	7.5	32 MON ENG NO 2 EXH GAS TEMP IND
364.32	384.76	0.44	75	23 MON NO 1 ENG N2 IND
364.32	364.76	0.44		24 MON NO 2 ENG N2 IND
384.76	365.20	0.44	7.5	33 MON ENG NO 1 FUEL FLOW INDIC
364.76	365.20	0.44	7.5	34 MON ENG NO 2 FUEL FLOW INDIC
365.20	365.64	0.44	76	09 MON NO 1 ENG OIL PRESS INDIC

SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
385.64	386.08	0.44	7F 10 MON NO 1 ENQ OIL Temp indic
365.64	366.00	0.44	7F 18 MON NO 2 ENG OIL Temp indic
386.08	386.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
386.08	366.52	0.44	7F 19 MON NO 2 ENG CIL QTY INDIC
366.52	366.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
386.52	388.96	0.44	7F 20 MON NO 2 ENG VIBR Amplitude indic
370.00			168L04 DESCEND THRU \$600.
\$70.00			160094 ALTITUDE STEP DOWN From atl approach
370.00	375.00	5.00	1P16XX94 MASA 515,DESCEND AND MAINTAIN 5000 FT.
375.00	378.50	3.50	1A 10 ACT PUSH-TO-TALK SW
375.00	378.50	3.50	1P18YY94 S15, ROGER, MAINTAIN 5000.
375.00			180091 ENTER/ARM NEW ALT IN MCP
\$85.00			090048 FLIGHT INSTRUMENT Scan -A2
415.00			090048 FLIGHT INSTRUMENT SCAN -A2
445.00			090048 FLIGHT INSTRUMENT Scan –A2
475.00			090048 FLIGHT INSTRUMENT Scan -a2
505.00			090051 FLIGHT INSTRUMENT Scan -a1
385.00			OGEYOR C/P EXT VIS SCAN
385.00	425.00	40.00	8A 11 PILOT EXTERNAL Vision Scan
430.00			030007 ENGINE INSTRUMENT Scan
430.00	430.44	0.44	7F 25 MON ENG NO 1 EPR IND
430.00	430.44	0.44	7F 30 MON ENG NO 2 EPR 1HD
430.44	430.88	0.44	7F 21 MON NO 1 ENG N1 IND
430.44	430.88	0.44	7F 22 MON NO 2 ENG N1 IND 7F 31 MON ENG NO 1 EXH GAS
430.88	431.32	0.44	TEMP IND
430.88	431.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
431.32	431.76	0.44	7F 23 MON NO 1 ENG N2 IND
431.32	431.76	0.44	7F 24 MON NO 2 ENG N2 IND 7F 33 MON ENG NO 1 FUEL
431.76	432.20	0.44	FLOW INDIC
431.78	432.20	0.44	7F 34 MON ENG NO 2 FUEL FLOW INDIC
432.20	432.64	0.44	7F ON MON MO 1 ENG OIL Press indic
432.64	433.08	0.44	7F 10 MON NO 1 ENG OIL Temp Indic
432.64	433.08	0.44	7F 18 MON NO 2 ENG O!L Temp Indic
433.08	433.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
433.06	433.52	0.44	7F 19 MON NO 2 ENG OIL GTY INDIC
433.52	433.96	0.44	7F 12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
433.52	433.96	0.44	7F 20 MON NO 2 ENG VISR AMPLITUDE INDIC
440.00			ODEYOS C/P EXT VIS SCAN

SINCE MISSIC BEGINNING	N START	ACTIVITY TIME	EVENT/PROCEDURE TASK
440.00	455.00	15.00	SA 10 PILOT EXTERNAL Vision Scan
450.00			160002 TUNE ATES -119.85
450.00	454.96	4.98	1A 07 MON YMF-1R FREG IND
450.00	452.01	2.01	1A OS SET VHF-1R FREG. Whole no.s
452.88	454.98	1.98	1A 09 SET VHF-1R FREQ - Fractions
455.00	457.39	2.39	1A OS SET VHF-1 COMM TFR SW TO RIGHT
456.43	457.95	1.52	1A 17 SET COMM 2 VHF-1 COMM RECVR SW TO ON
458.00	482.00	24.00	1A 15 MON VHF-1 COMM AUDIO
458.00	461.42	3.42	1P180001 MON RADIO COMM - [INFORMATION LIMA OME SEVEN ZERO FIVE OBSERVATION- TWO
481.42	465.98	4.58	1P160002 FIVE HUNDRED SCAT- Tered Ceiling four Thousand Broken. Visibility one Six.
465.98	470.54	4.56	1P180003 TEMPERATURE FIVE MINER. WIND OME ONE ZERO DEGREES AT TEN GUSTING TO OME SEVEN
470.54	475.10	4.58	1P180004 .ALTIMETER TWO - NI MER EIGHT FOUR. SIMULTAMEOUS PARAL- LEL APPROAGRES IN
475.10	479.66	4.58	1P180005 OPERATION ON RUNWAYS EIGHT LEFT AND NIMER RIGHT ADVISE COM- TROLLER ON INITIAL
479.88	481.94	2.20	1P180008 CONTACT YOU HAVE IN- Formation Lima.]
480.00			100048 MON ADF/RMI-2
400.00	462.26	2.26	SE 26 MON ADF NO. 1 POINTER ON ADF/RMI 2 INDIC
480.00			18BLOS CROSS FT NDB
465.00			ODEYOS C/P EXT VIS SCAM
465.00	\$10.00	45.00	8A 12 PILOT EXTERNAL Vision scan
480.00			160003 SET ALTIMETER BARD Setting to 29.84
480.00	482.00	2.00	1P180043 CALL OUT-(DESCENT AND APPROACH CHECK- LIST)
484.00			140032 ALTIMETER BARO SET PROC.
484.00	488.88	2.65	3H 04 MONITOR ALTIMETER Baro setting indic
484.00	486.65	2.05	3H 03 SET ALTIMETER BARO Setting Control
\$13.00			030007 ENGINE INSTRUMENT Scan
513.00	513.44	0.44	7F 28 MON ENG NO 1 EPR IND
513.00	513.44	0.44	7F 30 MON ENG NO 2 EPR !ND
\$13.44	513.88	0.44	7F 21 MON NO 1 ENG N1 IND
\$13.44	\$13.00	0.44	7F 22 MON NO 2 ENG N1 IND
513.88	514.32	0.44	7F 31 MON ENG NG 1 EXH GAS Temp ind
\$13.88	\$14.32	0.44	7F \$2 MON ENG NO 2 EXH GAS Temp ind
514.32	\$14.76	0.44	7F 28 MON NO 1 ENG N2 IND
\$14.32	514.76	0.44	7F 24 MON NO 2 ENG N2 IND
814.76	\$15.20	0.44	7F 33 MON ENG NO 1 FUEL Flow indic
514.78	515.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic

SINCE MISSIS	ON START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
515.20	515.64	0.44	7F 09 MON NO 1 ENG OIL Press indic
515.64	516.00	0.44	7F 10 MON NO 1 ENG OIL Temp indic
515.84	518.08	0.44	7F 16 MON NO 2 ENG CIL Temp indic
516.08	516.52	0.44	7F 11 MON NO 1 ENG OIL GTY Indic
516.00	516.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
516.52	518.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
\$16.52	516.96	0.44	7F 20 MON NO 2 ENG VIBR Amplitude indic
519.00			160041 MON VOR/RMI-1
520.00			18008S VECTOR FOR BASE LEG From atl approach
520.00	525.00	5.00	1P16XX95 NASA S15,TURN LEFT Heading 180.
525.00	528.50	3.50	1A 10 ACT PUSH-TO-TALK SW
525.00	528.50	3,50	1916YY95 \$15,ROGER, MEADING 180.
523.00			180082 ENTER NEW HEADING IN MCP
523.00			168LOG BEGIN TURN TO BASE
\$40.00			140023 REPORT 1000 FT TO Level off
\$40.00	542.13	2.13	3H 02 MON CORR BARO ALT Indic
542.00	543.70	1.70	19140048 CALL OUT -[1000 FEET TO LEVEL OFF)
550.00			ODEYOS C/P EXT YIS SCAN
550.00	565.00	15.00	8A 10 PILOT EXTERNAL Vision Scan
\$55.00			090051 FLIGHT INSTRUMENT SCAN —A1
\$65.00			160041 MON VOR/RM1-1
589.00			160042 MON ADF/RM1-1
570.00			180096 VECTOR TO INTERCEPT AND FINAL APPROACH CLEARANCE FROM ATL APPROACH CONTROL
\$70.00	\$80.00	10.00	1P16XX96 MASA 515,12 MILES From om.Turn LT HDG 110.Maintain 3000 Ft Until Crossing Bahrr
587.00	594.00	7.00	1A 25 ACTUATE COMM 2 PUSH- To-talk SW
\$87.00	594.00	7.00	1P18YY88 \$15 ROGER, CLEARED FOR ILS & LEFT APPR, TOWER AT BAHRR.
580.00	587.00	7.00	1P18ZZ98 CLEARED FOR ILS RUN- WAY 8 LEFT APPROACH. CONTACT TOWER ON 119.5 AT BAHRR.
\$75.00			180082 ENTER MEW MEADING IN MCP
575.00			16BL07 TURN TO INTERCEPT FINAL APPR. COURSE
585.00			180083 ARM LAND MODE
597.00			180034 TUNE ATLANTA TOWER -119.5
597.00	601.86	4.16	18 07 MON VHF-2R FREQ IND
597.00	599.80	2.88	18 OS SET VHF-2R FREG - WHOLE NO.S
599.88	801.86	1.98	18 OP SET VHF-2R FREG - FRACTIONS
600.00			180070 FLIGHT INSTRUMENT SCAN -A1, PILOT

SINCE MISSE BEGINNING	ON START	ACTIVITY Time	EVENT/PR Task	
807.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
807.00	617.00	10.00	2K	14 MON MAP VIDEO
607.00	617.00	10.00	2K	46 MON STRAIGHT TREND YECTOR SYMBOL
607.00	617.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
●07.00	617.00	10.00	2,1	OS MON FLT PATH ANGLE INDIC
607.00	617.00	10.00	51	04 MON FLT PATH ACCEL INDIC
607.00	617.00	10.00	2,1	01 MON ROLL ATT INDIC
807.00	617.00	10.00	2,3	19 MON PITCH REF INDIC
607.00	617.00	10.00	3.4	10 MONITOR AIRSPEED INDIC
010.00			180084	CAPTURE AN ALT IN ALT SEL MODE
610.00			168L08	LEYEL OFF AT \$000 FT Begin decel from 250 TO 210 KCAS
617.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
617.00	627.00	10.00	2 K	14 MON MAP VIDEO
617.00	627.00	10.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
617.00	627.00	10.00	2K	43 MON CURVED TREND VECTOR SYMBOLS
617.00	627.00	10.00	2,1	05 MON FLT PATH ANGLE INDIC
617.00	627.00	10.00	2,5	04 MON FLT PATH ACCEL INDIC
617.00	827.00	10.00	2J	01 MON ROLL ATT INDIC
617.00	627.00	10.00	2,3	19 MON PITCH REF INDIC
617.00	627.00	10.00	\$A	10 MONITOR AIRSPEED INDIC
613.00			180085	ENTER NEW SPEED IN CAS WINDOW
623.00			180086	CAPTURE LOCALIZER
623.00	625.19	2.19	21	18 MON ILS BOX INDIC
625.00	626.30	1.30	1P18	0087 CALL OUT -[LOCALIZER ALIVE]
826.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
627.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
827.00	637.00	10.00	2K	14 MON MAP VIDEO
027.00	637.00	10.00	2X	46 MON STRAIGHT TREND VECTOR SYMBOL
627.00	637.00	10.00	2K	35 MON CURVED TREND VECTOR SYMBOLS
627.00	637.00	10.00	24	OS MON FLT PATH ANGLE INDIC
827.00	637.00	10.00	2,1	04 MON FLT PATH ACCEL INDIC
027.00	637.00	10.00	2,1	01 MON ROLL ATT INDIC
627.00	637.00	10.00	2,1	19 MON PITCH REF INDIC
627.00	637.00	10.00	AE	10 MONITOR AIRSPEED INDIC
637.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
837.00	847.00	10.00	2K	14 MON MAP VIDEO
837.00	847.00	10.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
637.00	647.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS

SINCE WISSI BEGINNING	ON START	ACTIVITY Time -	EVENT/PROCEDURE Task
637.00	\$47.00	10.00	2J OS MON FLT PATH ANGLE INDIC
637.00	647.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
637.00	647.00	10.00	2J 01 MON ROLL ATT INDIC
637.00	647.00	10.00	2J 19 MON PITCH REF INDIC
637.00	847.00	10.00	3A 10 MONITOR AIRSPEED INDIC
643.00			160045 ANNUNCIATOR RECALL
643.00	645.28	2.20	7A 28 ACTUATE ANNUN PML Recall Sw
645.28	845.81	0.53	7A 36 MON ALL ANNUM LTS
647.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
647.00	657.00	10.00	2K 14 MON MAP VIDEO
647.00	657.00	10.00	2K 46 MON STRAIGHT TREND Vector symbol
647.00	857.00	10.00	2K 33 MON CURVED TREND YECTOR SYMBOLS
647.00	657.00	10.00	2J 06 MON FLT PATH ANGLE INDIC
\$47.00	657.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
647.00	657.00	10.00	2J O1 MON ROLL ATT INDIC
847.00	457.00	10.00	2J 19 MON PITCH REF INDIC
647.00	657.00	10.00	3A 10 MONITOR AIRSPEED INDIC
855.00			180041 MON YOR/RMI-1
657.00			180042 MON ADF/RMI-1
857.00			180048 MON ADF/RMI-2
657.00	659.26	2.26	SE 26 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
680.00			16BL09 REACH 210 KCAS
660.00			180087 CAPTURE GLIDE SLOPE
664.00			160081 CONTACT TOWER FOR FINAL LANDING CLEAR- ANCE
664.00	005.45	1.45	18 OS SET VHF-2 COMM TFR SW TO RIGHT
868.40	871.40	5.00	18 25 ACT PUSH-TO-TALK SW ON CONTROL MANDGRIP
666.40	671.40	5.00	1B 17 COMM VIA VHF-2
870.40	674.40	4.00	1P180038 RADIO COMM-TATLANTA Tower, NASA S18 IS BAHRR.
674.40	681.40	7.00	18 19 MON VHF-2 COMM AUDIO
874.40	678.40	4.00	1P180040 MON RADIO COMM - [MASA 515, MO. 3 For bl.dc-9 3 mi Amead.wind 110
678.40	881.40	3.00	1P160041 AT NIME.CLEARED TO LAND RW SL.
681.40	683.10	1.70	1B 29 ACTUATE COMMA 2 PUSH- TO-TALK SW
681.40	883.10	1.70	1B 15 COMM VIA VHF-2
881.40	683.10	1.70	1P180037 RADIO COMM - [615, ROGER]
884.00			168L10 CROSS BAHRR
884.00			160011 SET FLAPS TO FLAPS 1
684.00	884.70	0.70	1P 10 MONITOR CALL-OUT
685.00	687.69	2.69	4E 07 SET FLAP CONT LEVER TO FLAPS 1
687.69	889.92	2.23	4E 1S MONITOR FLAP Position imdicator

			OF POOR QUALITY
SINCE MISSI BEGINNING	ON START END	ACTIVITY Time	EVENT/PROCEDURE TASK
689.92	691.09	1.17	4N 03 MON LE FLAPS-IN- Transit Lt on
601.00	692.26	1.17	4N 04 MON LE FLAPS-IN- Transit Lt off
692.26	692.96	0.70	1P180058 CALL OUT -[FLAPS 1]
870.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
885.00			16BL11 REACH 190 KCAS
694.00			180017 SET FLAPS TO FLAPS 5
695.00	697.69	2.69	4E 09 SET FLAP CONT LEVER TO FLAPS S
699.00	898.70	0.70	1P180081 CALL OUT -[FLAPS 5]
694.00			180018 FLAP SET PROCEDURE
694.00	884.70	0.70	1P 10 MONITOR CALL-OUT
696.69	698.92	2.23	4E 1S MONITOR FLAP Position indicator
698.71	701.21	2.50	4E 16 CHECK FLAP LEVER AND POSITION INDIC AGREE
607.69	698.86	1.17	4N 03 MON LE FLAPS-!N- Transit Lt om
888.88	700.03	1.17	4N 04 MON LE PLAPS-IN- Transit Lt off
499.00			030007 ENGINE INSTRUMENT Scan
.00	699.44	0.44	7F 25 MON ENG NO 1 EPR IND
899.00	699.44	0.44	7F 30 MON ENG NO 2 EPR IND
699.44	699.86	0.44	7F 21 MON NO 1 ENG N1 IND
699.44	699.88	0.44	7F 22 MON NO 2 ENG N1 IND
***.**	700.32	0.44	7F 31 MON EMQ NO 1 EXH GAS Temp ind
699.88	700.32	0.44	7F 32 MON ENG NO 2 EXH QAS TEMP IND
700.32	700.76	0.44	7F 28 MON NO 1 ENG N2 IND
700.12	700.76	0.44	7F 24 MON NO 2 ENG N2 IND
700.76	701.20	0.44	7F 88 MON ENG NO 1 FUEL Flow Indic
700.76	701.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
701.20	701.84	0.44	7F 09 MON NO 1 ENG OIL Press indic
701.64	702.08	0.44	7F 10 MON NO 1 ENG CIL Temp indic
701.84	702.08	0.44	7F 18 MON NO 2 ENG OIL TEMP INDIC
702.08	702.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
702.08	702.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
702.52	702.98	0.44	7F 12 MON HO 1 ENG VIBRA- TION AMPLITUDE INDIC
702.52	702.96	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC
700.00			180071 PLIGHT INSTRUMENT Scam -A2, Pilot
700.00			188L12 REACH 170 KCAS
710.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
710.00	720.00	10.00	2K 14 MON MAP VIDEO
710.00	720.00	10.00	2K 46 MON STRAIGHT TREND
710.00	720.00	10.00	YECTOR SYMBOL 2K 38 MON CURVED TREND
710.00	720.00	10.00	VECTOR SYMBOLS 2J OS MON FLT PATH ANGLE
			INDIC

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/P TAS	ROCEDURE K
710.00	720.00	10.00	2,1	04 MON FLT PATH ACCEL INDIC
710.00	720.00	10.00	2,1	01 MON ROLL ATT INDIC
710.00	720.00	10.00	2,1	19 MON PITCH REF INDIC
710.00	720.00	10.00	34	10 MONITOR AIRSPEED INDIC
720.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
720.00	730.00	10.00	2K	14 MON MAP VIDEO
720.00	730.00	10.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
720.00	730.00	10.00	2K	35 MON CURVED TREND VECTOR SYMBOLS
720.00	730.00	10.00	2,1	OS MON FLT PATH ANGLE INDIC
720.00	730.00	10.00	2,1	04 MON FLT PATH ACCEL INDIC
720.00	730.00	10.00	2.4	61 MON ROLL ATT INDIC
720.00	730.00	10.00	51	19 MON PITCH REF INDIC
720.00	730.00	10.00	3A	10 MONITOR AIRSPEED INDIC
730.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
730.00	740.00	10.00	2K	14 MON MAP VIDEO
730.00	740.00	10.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
730.00	740.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
730.00	740.00	10.00	2,3	OS MON FLT PATH ANGLE INDIC
730.00	740.00	10.00	2,1	04 MON FLT PATH ACCEL INDIC
730.00	740.00	10.00	2,3	01 MON ROLL ATT INDIC
730.00	740.00	10.00	2,3	19 MON PITCH REF INDIC
730.00	740.00	10.00	3A	10 MONITOR AIRSPEED INDIC
730.00			00EY21	PILOT EXT VIS SCAN
740.00			180089	SET SPEED BRAKES
744.00			180048	MON ADF/RM1-2
744.00	746.26	2.26	5E	26 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
745.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
745.00			16BL13	CROSS REIFF
740.00			160070	SET AUTO BRAKES
748.00	750.62	2.62	40	43 SET AUTO BRAKE SEL SW TO MED
750.62	750.88	0.28	49	40 MON AUTO BRAKE INOP LT OFF
755.00			00EY01	C/P EXT VIS SCAN
755.00	760.00	\$.00	TA.	10 PILOT EXTERNAL VISION SCAN
785.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
765.00	775.00	10.00	2K	14 MON MAP VIDEO
765.00	775.00	10.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
765.00	775.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
765.00	775.00	10.00	2,1	OS MON FLT PATH ANGLE INDIC
765.00	775.00	10.00	2,1	04 MON FLT PATH ACCEL INDIC
785.00	775.00	10.00	2,1	01 MON ROLL ATT INDIC

SINCE MISS	ION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
785.00	775.00	10.00	2J 19 MON PITCH REF INDIC
785.00	775.00	10.00	3A 10 MONITOR AIRSPEED INDIC
775.00			180073 FLIGHT INSTRUMENT 8CAN -A1, COPILOT
775.00	785.00	10.00	2K 14 MON MAP VIDEO
775.00	785.00	10.00	2K 48 MON STRAIGHT TREND Vector Symbol
775.00	785.00	10.00	2K 33 MON CURVED TREND Vector symbols
775.00	785.00	10.00	2J 05 MON FLT PATH ANGLE INDIC
778.00	785.00	10.00	2J 04 MON FLT PATH ACCEL Indic
775.00	785.00	10.00	23 61 MON ROLL ATT INDIC
775.00	785.00	10.00	2J 19 MON PITCH REF INDIC
775.00	785.00	10.00	3A 10 MONITOR AIRSPEED INDIC
775.00			180071 FLIGHT INSTRUMENT Scan -A2, Filot
800.00			1600SS REPORT RUNWAY IN SIGHT
800.00	802.00	2.00	SA O1 YIEW RUNWAY AMEAD
802.00	€03.00	1.00	19180074 CALL OUT -[RUNWAY IN SITE]
105.00			ODEY21 PILOT EXT VIS SCAN
800.00			160018 FLAP SET PROCEDURE
808.00	808.70	0.70	1P 10 MONITOR CALL-OUT
810.89	812.92	2.23	4E 18 MONITOR FLAP Position imdicator
812.71	815.21	2.50	4E 18 CHECK FLAP LEVER AND POSITION INDIC AGREE
811.60	812.86	1.17	4M OS MON LE FLAPS-IN- Transit Lt on
812.86	814.03	1.17	4N 04 MON LE FLAPS-IN- Transit Lt off
808.00			180025 SET FLAPS TO FLAPS 15
809.00	811.46	2.46	4E 11 SET FLAP CONT LEVER To Flaps 15
813.00	813.70	0.70	1P160082 CALL OUT -[FLAP8 18]
812.00			160042 MON ADF/RMI-1
815.00			180059 CROSS_RWY OS OUTER Marker
815.00	\$15.72	0.72	3V 11 MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL
817.00	818.80	1.80	1P 18 MONITOR CALL-OUT
815.00			168L14 CROSS CATTA LOM-GEAR THEN EXTENDED AND 185 RCAS MAINTAINED
815.00			10049 MON RADIO ALTIMETER
815.00	817.00	2.00	3J O1 MON RABIO ALT ALTITUDE INDIC
820.00			180080 EXTEND LANDING GEAR
820.00	823.27	3.27	4D 03 SET LANDING GEAR LEVER TO DOWN
823.00	823.54	0.54	POSITION 4D OS MONITOR MOSE GEAR
			DOWN AND LOCKED LT ON 4D 99 MONITOR LEFT/RT GEAR
823.50	824.04	0.54	4D 99 MONITOR LEFT/RY GEAR BOWN AND LOCKED LT OM
820.00			180071 FLIGHT INSTRUMENT SCAN —A2, PILOT
845.00			180082 LANDING CHECKLIST

SINCE MISSION BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE TASK
845.00	846.00	1.00	88090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
847.00	847.60	0.60	1P190076 CALL OUT -[RECALL]
847.60	848.00	0.40	1P160077 CALL OUT -[CHECKED]
848.00	849.00	1.00	8B090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
850.00	850.70	0.70	1P160078 CALL OUT - (SPEED BRAKES)
851.00	852.30	1.30	1P 02 MONITOR CALL-OUT
852.50	853.50	1.00	88090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
854.50	855.20	0.70	1P180080 CALL OUT -(LANDING GEAR]
855.20	858.20	1.00	1P180081 CALL OUT -(DOWN, Three Green)
856.20	857.20	1.00	88090001 READ HEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
858.20	658.60	0.40	1P180082 CALL OUT -[FLAP8]
858.60	859.70	1.10	1P180083 CALL OUT - [FIFTEEM GREEN LIGHT]
861.10	862.20	1.10	1P180084 CALL OUT -[CHECKLIST COMPLETE]
861.10	862.20	1.10	1P 12 MONITOR CALL-OUT
850.00			ODEVZ1 PILOT EXT VIS SCAN
855.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
865.00			OCEYO2 C/P EXT VIS SCAN
885.00	875.00	10.00	8A 10 PILOT EXTERNAL Vision Scan
877.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
877.00	887.00	10.00	2K 14 MON MAP VIDEO
877.00	887.00	10.00	2K 46 MON STRAIGHT TREND Vector Symbol
877.00	887.00	10.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
877.00	887.00	10.00	2J OS MON FLT PATH ANGLE INDIC
877.00	887.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
877.00	887.00	10.00	2J 01 MON ROLL ATT INDIC
877.00	887.00	10.00	2J 19 MON PITCH REF INDIC 3A 10 MONITOR AIRSPEED
877.00	867.00	10.00	INDIC
889.00			030007 ENGINE INSTRUMENT SCAN
889.00	889.44	0.44	7F 25 MON ENG NO 1 EPR IND
888.00	889.44	0.44	7F 30 MON ENG NO 2 EPR IND
889.44		0.44	7F 21 MON NO 1 ENG N1 IND
#19 . 44	189.81	0.44	7F 22 MON NO 2 ENG N1 IND
111.11	190.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
***.**	890.32	0.44	7F 32 MOM ENG MO 2 EXH GAS TEMP IND
190.32	890.78	0.44	7F 23 MON NO 1 ENG N2 IND
890.32	880.78	0.44	7F 24 MON NO 2 ENG H2 IND
890.76	891.20	0.44	7F 33 MON END TO 1 FUEL FLOW INDIC
800.76	881.20	0.44	7F 34 MON ENG NO 2 FUEL FLOW INDIC
891.20	891.64	0.44	7F 09 MON MO 1 ENG OIL Press indic

SINCE MISS BEGINNING	ION START	ACTIVITY Time	EVENT/PROCEDURE TASK	
891.84	892.08	0.44	7F 10 MON NO 1 ENG OIL Temp indic	
891.84	802.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic	
892.08	892.52	0.44	7F 11 MON NO 1 ENG OIL GT	4
892.08	892.52	0.44	7F 10 MON NO 2 ENG OIL QTY INDIC	
802.52	892.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion Amplitude indic	
892.52	892.96	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC	
885.00			180071 FLIGHT INSTRUMENT SCAN -A2. PILOT	
895.00			180049 MON RADIO ALTIMETER	
895.00	897.00	2.00	3J 01 MON RADIO ALT Altitude indic	
900.00			ODEVO4 C/P EXT VIS SCAN	
900.00	\$20.00	20.00	8A 10 PILOT EXTERNAL VISION SCAN	
923.00			160065 DESCEND THRU -DECISION HEIGTH	
923.00	925.50	2.50	3R 12 MON DECISION HQT LT on FDI	
925.58	926.38	0.80	19180088 CALL OUT -[DECISION NEIGHT]	
915.00			GOEV21 PILOT EXT VIS SCAN	
920.00			180071 FLIGHT INSTRUMENT SCAN -A2, FILOT	
925.00			180084 CROSS RWY 08 MIDDLE Marker	
925.00	926.91	1.01	3V 13 MONITOR MIDDLE Marker ahnun Lt on And Audible signal	
928.00			168L15 CROSS MIDDLE MARKER	
930.00			ODEVO2 C/P EXT VIS SCAN	
930.00	940.00	10.00	BA 10 PILOT EXTERNAL Vision Scan	
940.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT	
940.00	950.00	10.00	2K 14 MON MAP VIDEO	
\$40.00	950.00	10.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL	
940.00	950.00	10.00	2K 33 MON CURVED TREND Vector bymbols	
\$40.00	950.00	10.00	2J OS MON FLT PATH ANGLE INDIC	
\$40.00	950.00	10.00	2J 04 MON FLT PATH ACCEL INDIC	
940.00	950.00	10.00	ZJ 01 MON ROLL ATT INDIC	
940.00	950.00	10.00	2J 19 MON PITCH REF INDIC	
940.00	950.00	10.00	3A 10 MONITOR AIRSPEED Indic	
941.00			188L16 CROSS RW THRESHOLD	
950.00			168L17 TOUCHDOWN	
\$50.00			180036 TOUCHDOWN AND ROLL- OUT, AGES AUTO LAND MODE CONTROLS A/C Untill 30kts	
950.00	980.00	30.00	2J 18 MON TV VIDEO	
\$50.00	980.00	30.00	2J 40 MON EADI RHWY	
950.00	980.00	30.00	2J 41 MON EAD! DRIFT IND!	
950.00	980.00	30.00	7F 25 MON ENG NO 1 EPR IN	
950.00	980.00	30.00	7F 30 MON ENG NO 2 EPR IN	D

SINCE MIS BEGINNING	SION START	ACTIVITY TIME	EVENT/PROCEDURE TASK	
900.00			180038 TOUCHDOWN OUT, AGCS Mode Count Untill 30K	AUTO LAND OLS A/C
980.00	1010.00	30.00	2J 15 MON	TV VIDEO
980.00	1010.00	30.00	2J 40 MON	EAD! RWY
980.00	1010.00	30.00	2J 41 MON	EAD! DRIFT INDIC
980.00	1010.00	30.00	7F 25 MON	ENG NO 1 EPR IND
880.00	1010.00	30.00	7F 30 MON	ENG NO 2 EPR IND
1010.00			180037 DISENGAGE	AGC\$
1010.00			ODEV23 PILOT EXT	VIS SCAN
884.00			180071 HANDOFF TO Control -1	
984.00	990.00	6.00	18 18 MON	YHF-2 COMM AUDIO
\$84.00	947.50	3.50	[NASA Way h	RADIO COMM - SIS,EXIT RUN- EXT INTERSEC- CONTACT GROUND
887.50	890.00	2.50		T NIKER WHEN OF RUNWAY,
990.00	992.50	2.50		PUSH-TO-TALK SW MDGRIP
990.00	992.50	2.50	18 15 COM	VIA VHF-2
100.00	992.50	2.50	ROGER	O COMM -[515, . POINT NINER CLEAR]
993.00	998.08	5.08	18 01 MON	WHF-2L FREQ IND
993.00	995.90	2.90	1B 02 SET Whole	VHF-2L FREQ-
995.88	997.86	1.98	18 03 SET Fract	YHF-2L FREG - 'IOMS
998.00	999.45	1.45		VHF-2 COMM TER LEFT
999.50	1003.00	3.50	18 29 ACTU To-ta	ATE COMM 2 PUSH- LK SW
999.50	1003.00	3.50	18 16 COM	VIA VHF-2
999.50	1003.00	3.50	•ROUN	O COMM -[ATLANTA D, THIS IS MASA TAXI TO GATE X,
1004.00	1007.50	3.50	18 18 MON	VHF-2 COMM AUDIO
1004.00	1007.50	3.50	(NA SA Groun	RADIO COMM - . 515, ATLANTA D. TAXI TO RAMP ORTHEAST=SOUTH-
1007.50	1008.50	1.00	1P160092 WEST	TAXIWAY, OVER3
1009.00	1010.70	1.70		ATE COMM 2 PUSH- LK SW
1000.00	1010.70	1.70	18 1,5 COM	VIA VHF-2
1008.00	1010.70	1.70		O COMM - ROGER]

MISSION SCENARIO REPORT

MISSION - MD-S DATA LINK
ILS AP-BASE LN.

CONFIGURATION - 737 ADVCHD FLT DCK
CREWMEMBER - COPILOT

CREWMEMBER - COPILOT

TIME INTERVAL (SECS) SINCE MISSION START BEGINNING END TOTAL ACTIVITY TIME FLIGHT PHASE EVENT/PROCEDURE TASK 0.00 18DL DATA LINK AFD ILS AF 16DL01 CROSS LOGEN INTERSEC TION AT 250 KCAS AND 14000 FEET.ATL CENTR HAS PREVIOUSLY INSTR UCTED MASA 515 TO MONITOR ATL APPROACH ON 126.9 AT LOGEN. VMF-2R HAS BEEN SET. 0.00 MONITOR ATL APPROACH ON 126.9/VHF-2R 0.00 16DL90 06 SET VHF-2 COMM TFR SW TO RIGHT 0.00 1.45 1.45 18 04 ADJ VHF-2 VOLUME 1.50 3.50 2.00 18 DROP OUT OF HOR AND VERT PATH TO FPA,TKA,AND CAS AUTO FLT MODES ENTER FPA IN MCP 0.00 180080 FLIGHT INSTRUMENT SCAN -A2 10.00 090048 FLIGHT INSTRUMENT SCAN -A2 40.00 090048 FLIGHT INSTRUMENT SCAN -A2 70.00 090048 SET MAY-1 TO RUNWAY SL ILS -109.3 15.00 160013 06 RETREIVE CHARTS 6.00 . 21.00 15.00 REVIEW CHARTS TO DETERMINE RUNWAY OS ILS FREQ AND REG VOR FREQ 88160003 5.00 21.00 26.00 MON NAV-1 FREG INDIC SU 01 5.08 26.00 31.08 SET MAY-1 FREG - WHOLE NO. S 6 U 28.00 29.00 3.00 SET HAV-1 FREG -FRACTIONS 50 03 2.08 31.08 29.00 CALL OUT -[RUNWAY SL 1P180059 31.50 34.40 2.80 MON YOR POINTER NO.1 ON YOR/RMI 2 INDIC 02 2.27 SH 33.77 31.50 PILOT EXT VIS SCAN 00EV30 60.00 SET ADF-1 TO CATTA -375KC 180039 38.00 SET ADF NO.1 BFO SW 5 D 38.00 41.00 3.00 MON ADF NO.1 TUNING 50 22 0.77 41.00 41.77 MONITOR ADF NO 1 FREQ INDIC S D 01 41.77 43.75 1.88 SELECT ADF NO 1 FREG 5 D 02 1.98 43.75 45.73 CALL OUT -[CATTA 19180068 47.23 1.50 45.73 SET ADF-2 TO FLANC -344 160040 49.00 SEL ADF NO.2 FREQ BAND .19-.40 17 SE \$1.69 49.00 MON ADF NO 2 FREQ. 5E 01 52.00 53.98 1.98 SELECT ADF NO 2 FREQ SE 02 1.98 52.00 53.98

> ORIGINAL PAGE IS OF POOR QUALITY

MOV10 1986

SINCE MISSION BEGINNING	START END	ACTIVITY Time	EVENT/PROCEDURE TASK
\$2.00	54.26	1.26	SE 20 MON ADF NO.2 TUNING Meter indic
54.00	55.50	1.50	1P10006 CALL OUT -[FLANC ON ADF-2]
88.00			160036 SET DECISION HEIGTH ON RADIO ALTIMETER
64.00			030007 ENGINE INSTRUMENT SCAN
64.00	84.44	0.44	7F 28 MON EMG NO 1 EPR IND
84.00	64.44	0.44	7F 30 MON ENG NO 2 EPR IND
64.44	64.88	0.44	7F 21 MON NO 1 ENG N1 IND
64.44	64.88	0.44	7F 22 MON NO 2 ENG N1 IND
64.88	65.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
64.88	85.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
65.32	65.78	0.44	7F 24 MGM NO 1 ENG M2 IND
85.32	65.78	0.44	7F 24 MON NO 2 ENQ N2 IND
65.76	66.20	0.44	7F 33 MON ENG NO 1 FUEL Flow indic
65.76	66.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
66.20	66.64	0.44	7F 09 MON NO 1 ENG OIL Press indic
66.84	67.08	0.44	7F 10 MON MO 1 ENG OIL Temp (NDIC
88.84	67.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
67.00	67.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
87.08	67.52	0.44	7F 18 MON NO 2 ENG OIL GTY INDIC
67.52	67.96	0.44	7F 12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
67.52	67.96	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC
70.00			160005 DESCENT AND APPROACH CHECKLIST - 1
70.00	72.00	2.00	1P 02 MONITOR CALL-OUT
72.00	77.90	5.90	88 02 RETREIVE CHECKLIST
78.00	83.00	\$.00	98 OS FIND CHECKLIST IN HANDBOOK
83.00	85.00	2.00	9B 03 READ MEXT ITEM ON CHECKLIST
85.00	88.00	1.00	1P160044 CALL OUT-[ANTI-ICE]
67.00	87.60	0.80	1P180045 CALL OUT-[NOT REQD]
88.00	90.00	2.00	8B 03 READ MEXT ITEM ON Checklist
90.00	91.80	1.80	1P160048 CALL OUT -{AIR COM- Ditioning and pres- Surization]
92.00	94.67	2.67	7D 69 MON PASS CAB TEMP CONT SETTING
94.67	96.69	2.02	7D 70 MON CONT CAB TEMP CONT SETTING
96.69	97.86	1.17	7E OS MON LDG ALT CHTR
98.00	88.40	0.40	1P180047 CALL OUT [SET]
100.00			180008 DESCENT AND APPROACH CHECKLIST - 2
100.00	102.00	2.00	38 OS READ NEXT ITEM ON CHECKLIST
102.00	102.90	0.90	1P180048 CALL OUT-ESTART SWITCHES]
108.50	109.00	0.50	1P OS MONITOR REPORT

SINCE MISS	ON START	ACTIVITY	QUILLIII,	EVENT/P	ROCEDI	PRE
BÉQ I ÑN I NQ	END	TIME		TAB		
109.00	111.00	2.00		**	03	READ NEXT ITEM ON Checklist
111.00	112.10	1.10		1 P1 (80050	CALL OUT-[INBOARD LANDING LIGHTS]
112.00	114.20	2.20		70	17	SET LANDING LIGHTS SW TO ON
114.20	114.50	0.30		1710	80051	CALL OUT -[ON]
114.50	118.50	2.00		**	03	READ NEXT ITEM ON CHECKLIST
118.50	117.90	1.40		1916	0052	CALL OUT -[ALTIMETER AND INSTRUMENTS]
118.00	120.37	2.37		3 H	02	MON CORR BARO ALT
120.37	123.37	3.00		3H	05	F.O. CHECK CAPT<8 ALTIMETER BARO SET AND INDICATED ALTI- TUDE
123.40	124.70	1.30		1710	0053	CALL OUT-[SET AND CROSSCHECKED]
128.00				160007	DE SC	ENT AND APPROACH
126.00	128.00	2.00		••	03	READ MEST STEM ON CHECKLIST
120.00	120.50	1.80		1910	0054	CALL OUT-[EPR AND IAS BUGS]
128.00	131.00	3.00		8801	0004	RETREIVE FLIGHT PLANNING REF. DATA MANUAL
131.00	136.00	5.00		8810	0001	DETERMINE GO-AROUND EPR BUG SET VALUE
136.00	136.32	2.32		7F	26	SET ENG NO 1 EPR BUG
136.32	138.32	2.00		7#	27	MON ENG NO 1 EPR BUG
138.32	140.64	2.32		7#	28	SET ENG NO 2 EPR BUG
138.64	140.84	2.00		7 F	29	MON ENG NO 2 EPR BUG
141.00	148.00	5.00		8816	0002	DETERMINE LANDING V-REF BUG SET VALUE
146.00	148.57	2.57		34	67	MON V-REP SUM SETTING
146.00	148.57	2.57		3A	05	SET Y-REF BUG
148.00	147.90	1.90		1910	0065	CALL OUT -[V-REF IS
151.00	154.00	3.00		3A	12	F.O. CHECK CAPTIS V-REF BUG SETTING
154.00	155.60	1.60		1P16	0058	CALL OUT -[BUGS SET AND CROSS-CHECKED]
155.80	157.60	2.00		**	03	READ NEXT ITEM ON CHECKLIST
155.60	156.90	1.30		1716	0057	CALL OUT -[CHECKLIST COMPLETED]
157.60	160.60	3.00		••	08	STOW CHECKLIST
160.60	162.60	2.00		_	0005	STOW FLIGHT PLANNING REF. DATA MANUAL
155.00				030007	ENG! SCAN	NE INSTRUMENT
185.00	165.44	0.44		7F	28	MON ENG NO 1 EPR IND
185.00	165.44	0.44		7 F	\$0	MON ENG NO 2 EPR IND
165.44	165.88	0.44		7#	21	MON NO 1 ENG N1 IND
185.44	105.88	0.44		7#	22	MON NO 2 ENG N1 IND
165.88	166.32	0.44		7F	31	MON ENG NO 1 EXH GAS TEMP IND
165.88	166.32	0.44		7 F	32	MON ENG NO 2 EXH GAS TEMP IND
166.32	186.76	0.44		76	23	MON NO ! ENU NZ !ND
166.32	188.76	0.44		77	24	MON NO 2 ENG N2 1ND
166.76	167.20	0.44		7#	33	MON ENG NO 1 FUEL FLOW INDIC

SINCE MISSION BEGINNING	M START END	ACTIVITY Time	EVENT/PROCEDURE Task
166.76	167.20	0.44	7F 34 MOM ENG NO 2 FUEL Flow Indic
167.20	167.64	0.44	7F OS MON NO 1 ENG OIL Press indic
167.04	168.08	0.44	7F 10 MON NO 1 ENG OIL Temp Indic
167.64	168.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
188.08	168.52	0.44	7F 11 MON NO 1 ENG OIL QTY Indic
168.08	168.52	0.44	7F 19 MON NO 2 ENG OIL GTY :NC:C
188.52	188.95	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
166.52	108.95	0.44	7F 20 MON NO 2 ENG VIBR Amplitude indic
150.00			ODEVOS C/P EXT VIS SCAN
150.00	175.00	25.00	8A 11 PILOT EXTERNAL Vision Scan
196.00			090051 FLIGHT INSTR ume nt Scan -a1
185.00			180048 MON ADF/RMI-2
195.00	197.26	2.26	SE 28 MON ADF NO.1 POINTER ON ADF/RM1 2 INDIC
195.00			16DL91 MANDOFF TO ATL FINAL APPROACH CONTROLLER VECTOR TO BOWHWIND
195.00	196.60	1.60	1016XX01 MON INFORMATION MANAGEMENT ATENSON
196.60	198.60	2.00	1D16XXO2 MON INFORMATION Management Display [Mode-s uplink PMDG] Amber
190.60	200.40	1.80	1X180001 LINE SELECT [ATC Uplinks pending]
200.40	210.40	10.00	1D18XX01 READ -TURN RT MDG 270,DESCND AND MAIN- Tain 8000 Ft,monitor ATL APPR ON 127.25
210.40	212.20	1.80	1X160041 LIME SELECT (WILCO)
200.00			18DL81 ARM NEW DL MCP ALT
200.00			18BLO2 BEGIN TURN TO DOWN- WIND LEG
205.00			18DL82 ENGAGE DATA LINKED Heading in McP
210.00			18BLO3 DESCEND THRU 11000.
210.00			090051 FLIGHT INSTRUMENT SCAN -A1
219.00			160092 TUME ATL APPROACH ON 127.25
219.00	223.88	4.18	18 01 MON VHF-2L FREQ 1ND
219.00	221.90	2.90	1B 02 SET VHF-2L FREQ- Whole No.S
221.88	223.86	1.98	18 03 SET VHF-2L FREQ - Fractions
228.00			16DL93 MONITOR ATL APPROACH ON 127.25/VMF-2L
226.00	227.49	1.49	18 OS SET VHF-2 COMM TFR SW TO LEFT
227.50	229.50	2.00	1B 04 ADJ VHF-2 VOLUME
220.00			090048 FLIGHT INSTRUMENT Scan -A2
240.00			OGEVOS C/P EXT VIS SCAN
240.00	285.00	45.00	BA 12 PILOT EXTERMAL Vision Scan
280.00			090048 FLIGHT INSTRUMENT Scan -A2
280.00			090048 FLIGHT INSTRUMENT Scan –A2

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK	
\$10.00			090048 FLIGHT INSTRUMENT Scan -A2	
340.00			090048 FLIGHT INSTRUMENT SCAN -A2	
288.00			030007 ENGINE INSTRUMENT SCAN	
288.00	288.44	0.44	7F 2S MON ENG NO 1 EPR IN	D
288.00	288.44	0.44	7F 30 MON ENG NO 2 EPR IN	D
208.44	288.88	0.44	7F 21 MON NO 1 ENG N1 IND	
288.44	288.88	0.44	7F 22 MON NO 2 ENG N1 IND	
288.88	200.32	0.44	7F 31 MON ENG NO 1 EXH GA TEMP IND	8
288.88	289.32	0.44	7F 32 MON ENG NO 2 EXH GA TEMP IND	\$
289.32	289.76	0.44	7F 23 MON NO 1 ENG N2 IND	
289.32	200.76	0.44	7F 24 MON NO 2 ENG M2 1MD	
289.76	200.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic	
288.76	290.20	0.44	7F 34 MON ENG NO 2 FUEL Flow indic	
290.20	280.84	0.44	7F OS MON NO 1 ENG OIL PRESS INDIC	
290.64	291.08	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC	
290.84	291.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic	
291.08	291.52	0.44	7F 11 MON NO 1 ENG OIL QT' INDIC	Y
291.08	291.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC	
291.52	291.96	0.44	7F 12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC	
291.52	201.96	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC	
295.00			ODEYOD C/P EXT YIS SCAN	
295.00	340.00	45.00	8A 12 PILOT EXTERNAL Vision Scan	
340.00			ODEVO4 C/P EXT VIS SCAN	
340.00	360.00	20.00	SA 10 PILOT EXTERNAL VISION SCAN	
363.00			030007 ENGINE INSTRUMENT Scan	
363.00	363.44	0.44	7F 25 MON ENG NO 1 EPR IN	
363.00	363.44	0.44	7F 30 MON ENG NO 2 EPR IN	٥
363.44	363.60	0.44	7F 21 MON NO 1 ENG M1 IND	
383.44	363.88	0.44	7F 22 MON NO 2 ENG N1 !ND 7F 31 MON ENG NO 1 EXH GA:	\$
363.88	364.32 364.32	0.44	TEMP IND 7F 32 MON ENG NO 2 EXH GA	
			TEMP IND	
364.32	364.76	0.44	7F 23 MON NO 1 ENG N2 IND 7F 24 MON NO 2 ENG N2 IND	
364.32	364.76	0.44		
384.76	365.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic 7F 34 Mon Eng No 2 Fuel	
384.76	365.20		FLOW INDIC 7F OF MON NO 1 ENG OIL	
365.20	365.64	0.44	PRESS INDIC	
365.64	366.08	0,44	7F 10 MON NO 1 ENG OIL TEMP INDIC	
365.64	366.08	0.44	7F 18 MON NO 2 ENQ OIL Temp indic	
366.08	366.52	0.44	7F 11 MON NO 1 ENG OIL QT' Indic	Y

SINCE MISSIO SEGINNING	N START END	ACTIVITY TIME	EVENT/PROCEI	DURE
366.03	306.52	0.44	7F 11	MON NO 2 ENG OIL QTY INDIC
366.52	366.96	0.44	7F 1:	MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
388.52	368.96	0.44	78 2	MON NO 2 ENG Y:BR
\$70.00			168L04 DE	SCEND THRU 8600.
370.00			18DL94 AL	TITUDE STEP DOWN
370.00	371.80	1.00	1016XX0	I MON INFORMATION MANAGEMENT ATENSON
371.60	373.60	2.00	1016XX0	MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PNDG] AMBER
873.80	375.40	1.80	1218000	I LINE SELECT [ATC UPLINKS PENDING]
875.40	379.40	4.00	1016XX9	4 READ -DESCEND AND MAINTAIN SOOD FT
379.40	381.20	1.80	1X18004	1 LINE SELECT [WILCO]
375.00				M NEW MCP ALT
385.00				IGHT INSTRUMENT AN -A2
415.00				IGHT INSTRUMENT AN -A2
445.00				IGHT INSTRUMENT An -A2
475.00				IGHT INSTRUMENT AN -A2
\$05.00				IGHT INSTRUMENT AN -A1
385.00			00EV08 C/	P EXT VIS SCAN
185.00	425.00	40.00	0 A 1	1 PILOT EXTERNAL VISION SCAN
430.00				GINE INSTRUMENT AN
430.00	430.44	0.44	7F 2	S MON ENG NO 1 EPR IND
430.00	430.44	0.44	7F 3	O MON ENG NO 2 EPR IND
430.44	430.88	0.44	7F 2	1 MON NO 1 ENG NT IND
430.44	430.88	0.44	77 2	2 MON NO 2 ENG N1 IND
430.88	431.32	0.44	7F \$	1 MON ENG NO 1 EXH GAS TEMP IND
430.88	431.32	0.44	7F 3	2 MON ENG NO 2 EXH GAS TEMP IND
431.32	491.76	0.44	7F 2	S MON NO 1 ENG N2 IND
491.32	481.76	0.44	7F 2	4 MON NO 2 ENG N2 IND
431.76	482.20	0.44	7F 3	S MON ENG NO 1 FUEL FLOW INDIC
431.78	432.20	0.44	77 3	4 MON ENG NO 2 FUEL FLOW INDIC
432.20	432.64	0.44	7F 0	9 MON NO 1 ENG OIL PRESS INDIC
432.64	433.00	0.44	7F 1	O MON NO 1 ENG OIL TEMP INDIC
432.64	433.08	0.44	7F 1	NON NO 2 ENG OIL TEMP INDIC
433.08	433.52	0.44	7F 1	1 MON NO 1 ENG OIL GTY
433.08	493.52	0.44	7F 1	9 MON NO 2 ENG OIL GTY INDIC
431.52	433.96	0.44	7F 1	2 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
433.62	433.96	0.44	7F 2	O MON NO 2 ENG VIBR AMPLITUDE INDIC

SINCE MISSION BEGINNING	N START END	ACTIVITY TIME	OF	POOR	QUALITY	EVENT/P!		RE
450.00						160102	RECE TERM	IVE ATL ETIS
450.00	451.80	1.80				1316	30004	LIME SELECT [ETIS REQUESTS]
451.80	453.80	2.00				1016		READ [ETIS REQUEST FOR KATL]
453.80	455.60	1.80				1210	50046	LINE SELECT [FULL ETIS REPORT]
458.60	460.20	1.60				1016	10 1	MON INFORMATION MANAGEMENT
460.20	482.20	2.00				1010	BIXOS	ATENSON MON VISUAL ALERT DSP [MODE-8 UPLINK PNDG] INDENTED BLUE
462.20	464.00	1.80				1210	80001	LIME SELECT [ATC
464.00	474.00	10.00				1011	82231	READ-ETIS REPORT FOR ATL AT XXXXZ. SKY 25 SCT/40 BKN. YSB 16. WIND 110/10/G17.
474.00	479.00	s.00				101	8XX32	TEMP 58. ALT 2984. APR RWOSL AND RWOSR SIMULT PARALLEL ILS
479.00	480.80	1.80				121	60047	LIME SELECT (PRINT MESSAGE)
460.00						16BL05	CROS	S FT NDB
480.00						180003		ALTIMETER BARO ING TO 29.84
480.00	482.00	2.00				1910	60043	CALL OUT-[DESCENT AND APPROACH CHECK- LIST]
484.00						140032	ALTI	METER BARO SET
484.00	486.85	2.65				3H	04	MONITOR ALTIMETER BARO SETTING INDIC
484.00	480.65	2.85				3H	03	SET ALTIMETER BARD SETTING CONTROL
513.00						030007	ENG I SCAN	NE INSTRUMENT
613.00	513.44	0.44				7#	2 5	MON ENG NO 1 EPR IND
\$13.00	513.44	0.44				78	30	MON ENG NO 2 EPR IND
513.44	\$13.80	0.44				75	21	MON NO 1 ENG N1 IND
\$13.44	513.00	0.44				7F	22	MON NO 2 ENG N1 IND
513.80	514.32	0.44				7F	31	MON ENG NO 1 EXH GAS TEMP IND
513.80	514.32	0.44				7 F	12	MON ENG NO 2 EXH GAS TEMP IND
\$14.32	514.76	0.44				78	28	MON NO 1 ENG N2 IND
514.32	514.76	0.44				7#	24	MON NO 2 ENG N2 IND
514.76	\$15.20	0.44				7F	**	MON ENG NO 1 FUEL FLOW INDIC
514.76	515.20	0.44				75	34	MON ENG NO 2 FUEL FLOW INDIC
\$15.20	\$15.64	0.44				7 F	09	MON NO 1 ENG OIL Press indic
616.64	518.08	0.44				75	10	MON NO 1 ENG OIL TEMP INDIC
\$15.64	\$10.00	0.44				7#	18	MON NO 2 ENG OIL TEMP INDIC
516.08	516.52	0.44				7F	11	MON NO 1 ENQ OIL GTY
516.00	516.52	0.44				7F	19	MON NO 2 ENG OIL QTY INDIC
\$18.52	616.00	0.44				7F	12	MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
\$18.52	\$18.96	0.44				7 F	20	MON NO 2 ENG VIBR AMPLITUGE INDIC
\$19.00						160041	MON	VOR/RMI-1
\$20.00						160195	VECT	OR FOR BASE LEG

SINCE MISSION SEGINATING	START END	ACTIVITY TIME	EVENT/PROCEDURE Task
\$20.00	\$21.60	1.60	1D18XXO1 MON INFORMATION Management Atenson
\$21.60	523.60	2.00	1D16XXO2 MON INFORMATION MANAGEMENT DISPLAY [Mode-s uplink PNDG] Amber
523.60	525.40	1.80	1X160001 LINE SELECT [ATC UPLIMES PENDING]
\$25.40	528.40	3.00	1D16XX95 READ -TURN LEFT Meading 180
528.40	530.20	1.00	1X160041 LINE SELECT (WILCO)
523.00			18DLB2 ENGAGE DATA LINKED Heading in MCP
523.00			188LOS SERIN TURN TO SASE
540.00			140023 REPORT 1000 FT TO Level off
\$40.00	\$42.13	2.13	3H O2 MON CORR BARO ALT INDIC
\$42.00	543.70	1.70	1P140045 CALL OUT -[1000 FEET TO LEVEL OFF]
\$50.00			ODEVOS C/P EXT VIS SCAN
550.00	\$85.00	15.00	8A 10 PILOT EXTERNAL Vision Scan
\$55.00			090051 FLIGHT INSTRUMENT Scan -A1
565.00			160041 MON VOR/RMI-1
\$69.00			180042 MON ADF/RMI-1
570.00			16DL96 VECTOR TO FINAL APPR
\$70.00	571.60	1.60	1016XX01 MON INFORMATION Management Atenson
571.60	\$73.60	2.00	1D18XXO2 MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDG] AMBER
573.60	875.40	1.80	1X180001 LIME SELECT (ATC UPLIMES PENDING)
575.40	584.40	9.00	1D18XX98 READ -12 MM FROM OM Turn LT MDG 110.MAIN Tain 5000 Until Ximg Bahrr.
584.40	591.40	7.00	1D16ZZ97 CLEARED FOR !LS &L Appr.monitor tower On 119.5 at Bahrr
591.40	583.20	1.80	1X160041 LINE SELECT [WILCO]
\$75.00			18DL82 ENGAGE DATA LINKED Meading in MCP
875.00			16BL07 TURM TO INTERCEPT Final Appr. Course
585.00			180083 ARM LAND MODE
597.00			160034 TUNE ATLANTA TOWER -119.5
	601.86	4.10	18 07 MON VMF-2R FREG IND
\$87.00 \$97.00	500.88	2.60	18 OS SET YMF-2R FREQ - Whole No.5
500.00	601.86	1.98	18 OB SET YMF-2R FREQ - Fractions
600.00			180070 FLIGHT INSTRUMENT SCAN -A1, PILOT
807.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
807.00	817.00	10.00	2K 14 MON MAP VIDEO
607.00	617.00	10.00	2K 48 MON STRAIGHT TREND YECTOR SYMBOL
8 07.00	617.00	10.00	2K 33 MON CURVED TREND VECTOR SYMBOLS

SINCE MISS	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
607.00	617.00	10.00	2J OS MON FLT PATH ANGLE INDIC
607.00	617.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
607.00	817.00	10.00	2J 01 MON ROLL ATT INDIC
607.00	617.00	10.00	2J 19 MON PITCH REF INDIC
\$07.00	617.00	10.00	SA 10 MONITOR AIRSPEED Indic
610.00			180084 CAPTURE AN ALT IN ALT SEL MODE
610.00			18BL08 LEVEL OFF AT 5000 FT Begin Decel from 250 To 210 KCAS
817.00			180073 FLIGHT INSTRUMENT 8CAN -A1, COPILOT
617.00	827.00	10.00	2K 14 MON MAP VIDEO
617.00	627.00	10.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
617.00	627.00	10.00	2K 33 MON CURVED TREND Vector symbols
017.00	627.00	10.00	2J OS MON FLT PATH ANGLE INDIC
617.00	027.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
617.00	627.00	10.00	2J 01 MON ROLL ATT INDIC
617.00	627.00	10.00	2J 19 MON PITCH REF INDIC
0 17.00	627.00	10.00	3A 10 MONITOR AIRSPEED INDIC
013.00			180085 ENTER NEW SPEED IN CAS WINDOW
823.00			180086 CAPTURE LOCALIZER
\$23.00	625.19	2.19	2J 13 MON ILS BOX Indic
625.00	626.30	1.30	1P180087 CALL OUT -[LOCALIZER ALIVE]
626.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
627.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
827.00	637.00	10.00	2K 14 MON MAP VIDEO
627.00	637.00	10.00	2K 48 MON STRAIGHT TREND VECTOR SYMBOL
627.00	637.00	10.00	2K 33 MON CURVED TREND Vector symbols
627.00	637.00	10.00	2J OS MON FLT PATH ANGLE Indic
627.00	637.00	10.00	2J 04 MON FLT PATH ACCEL Indic
627.00	637.00	10.00	2J 01 MON ROLL ATT INDIC
827.00	637.00	10.00	2J 19 MON PITCH REF INDIC
827.00	637.00	10.00	3A 10 MONITOR AIRSPEED Indic
637.00			180073 FLIGHT INSTRUMENT Scan — A1, copilot
637.00	647.00	10.00	2K 14 MOR MAP VIDEO
637.00	647.00	10.00	2K 46 MON STRAIGHT TREND Vector Symbol
637.00	647.00	10.00	2K 33 MON CURVED TREND Vector symbols
437.00	647.00	10.00	2J OS MON FLT PATH ANGLE Indic
637.00	647.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
837.00	847.00	10.00	2J 01 MON ROLL ATT INDIC
637.00	647.00	10.00	2J 19 MON PITCH REF INDIC

SINCE MISSI SEGINNING	ON START	ACTIVITY TIME	EVENT/PROCEDURE Tabk
637.00	647.00	10.00	SA 10 MONITOR AIRSPEED INDIC
643.00			190045 ANNUNCIATOR RECALL
643.00	645.28	2.28	7A 28 ACTUATE ANNUM PML Recall SW
645.28	645.81	0.53	7A 36 MON ALL ANNUN LTS
647.00			180073 FLIGHT INSTRUMENT Scan — A1, COPILOT
847.00	657.00	10.00	2K 14 MON MAP VIDEO
847.00	657.00	10.00	2K 48 MON STRAIGHT TREND Vector Symbol
647.00	857.00	10.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
647.00	657.00	10.00	2J OS MON FLT PATH ANGLE INDIC
647.00	857.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
847.00	857.00	10.00	2J OI MON ROLL ATT INDIC
647.00	057.00	10.00	2J 19 MON PITCH REF INDIC
647.00	657.00	10.00	3A 10 MONITOR AIRSPEED INDIC
655.00			160041 MON VOR/RMI-1
657.00			180042 MON ADF/RMI-1
657.00			180048 MON ADF/RM1-2
657.00	659.26	2.26	SE 26 MON ADF NO.1 POINTER ON ADF/RM1 2 INDIC
460.00			168LOS REACH 210 KCAS
680.00			180087 CAPTURE GLIDE SLOPE
864.00			18DL80 MONITOR ATL TOWER ON 119.5/VHF-2R
664.00	665.45	1.45	18 OS SET WHF-2 COMM TFR SW TO RIGHT
885.50	867.50	2.00	1B 04 ADJ VHF-2 VOLUME
670.00			16DL61 LANDING CLEARANCE
670.00	671.80	1.60	1D18XXO1 MON INFORMATION Management Atemson
671.60	673.60	2.00	1D18XX02 MON INFORMATION MANAGEMENT DISPLAY [MODE-8 UPLINK PNDG] AMBER
673.60	675.40	1.80	1X180001 LIME SELECT [ATC Uplinks pending]
875.40	885.40	10.00	1D18XX40 READ -NO.3 FOR SL. DC-9 3 MM AMEAD WIND 110 AT 9. CLEARED TO LAND RW SL.
885.40	687.20	1.80	1X180041 LINE SELECT [WILCO]
864.00			188L10 CROSS BAHRR
884.00			180011 SET FLAPS TO FLAPS 1
684.00	684.70	0.70	1P 10 MONITOR CALL-OUT
885.00	687.69	2.89	4E 07 SET FLAP CONT LEVER To Flaps 1
687.69	689.92	2.23	4E 1S MONITOR FLAP Position indicator
689.92	691.09	1.17	4W OS MON LE FLAPS-IN- Transit Lt om
691.00	692.26	1.17	4H 04 MON LE FLAPS-IN- Transit Lt off
692.26	492.96	0.70	1P180058 CALL OUT -(FLAPS 1)
670.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
685.00			18BL11 REACH 190 KCAS

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
694.00			180017 SET FLAPS TO FLAPS S
695.00	697.69	2.69	4E 09 SET FLAP CONT LEVER TO FLAPS S
699.00	699.70	0.70	1P180061 CALL OUT -[FLAPS 5]
694.00			180018 FLAP SET PROCEDURE
694.00	894.70	0.70	1P 10 MONITOR CALL-OUT
686.69	698.92	2.23	4E 18 MONITOR PLAP Position indicator
698.71	701.21	2.50	4E 16 CHECK FLAP LEVER AND POSITION INDIC AGREE
697.69	698.86	1.17	4M G3 MON LE FLAPS-(N- Transit Lt on
698.86	700.03	1.17	4M 04 MON LE FLAPS-IN- Transit Lt off
600.00			030007 ENGIME INSTRUMENT Scan
699.00	699.44	0.44	7F 25 MON ENG NO 1 EPR IND
899.00	699.44	0.44	7F 30 MON ENG NO 2 EPR 1MD
000.44	499.88	0.44	7F 21 MON NO 1 ENG N1 IND
699.44	699.88	0.44	7F 22 MON NO 2 ENG N1 IND
690.88	700.32	0.44	7F 31 MON ENG NO 1 EAM GAS TEMP IND
***.**	700.32	0.44	7F 32 MONENG NO 2 EXH GAS TEMP IND
700.32	700.76	0.44	7F 23 MON NO 1 ENG N2 IND
700.32	700.76	0.44	7F 24 MON NO 2 ENG N2 IND
700.78	701.20	0.44	7F 33 MON ENG NO 1 FUEL Flow indic
700.78	701.20	0.44	7F 34 MON ENG NO 2 FUEL Flow indic
701.20	701.64	0.44	7F 09 MON NO 1 ENG CIL Press indic
701.84	702.08	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC
701.84	702.08	0.44	7F 18 MON NO 2 ENG O!L Temp Indic
702.00	702.52	0.44	7F 11 MON NO 1 ENG OIL GTY (NDIC
702.08	702.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
702.52	702.96	0.44	7F 12 MON NO 1 ENG VISRA- Tion amplitude indic
702.52	702.98	0.44	7F 20 MON MO 2 ENG VIBR Amplitude indic
700.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
706.00			16BL12 REACH 170 KCAS
710.00			190073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
710.00	720.00	10.00	2K 14 MON MAP VIDEO
710.00	720.00	10.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
710.00	720.00	10.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
710.00	720.00	10.00	2J OS MON FLT PATH ANGLE Indic
710.00	720.00	10.00	2J 04 MON FLT PATH ACCEL Indic
710.00	720.00	10.00	2J 01 MON ROLL ATT INDIC
710.00	720.00	10.00	2J 19 MON PITCH REF INDIC
710.00	720.00	10.00	3A 10 MONITOR AIRSPEED INDIC
720.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT

SINCE MISSI BEGINNING	ON START	ACTIVITY TIME	EVENT/PR Task	
720.00	730.00	10.00	2K	14 MON MAP VIDEO
720.00	730.00	10.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
720.00	730.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
720.00	730.00	10.00	21	OS MON FLY PATH ANGLE INDIC
720.00	730.00	10.00	2,1	04 MON FLT PATH ACCEL INDIC
720.00	730.00	10.00	2,3	01 MON ROLL ATT INDIC
720.00	730.00	10.00	2,3	18 MON PITCH REF INDIC
720.00	730.00	10.00	3A	10 MOMITOR AIRSPEED INDIC
730.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
730.00	740.00	10.00	2K	14 MON MAP VIDEO
730.00	740.00	10.00	2Κ	46 MON STRAIGHT TREND VECTOR SYMBOL
730.00	740.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
730.00	740.00	10.00	2,1	OS MON FLT PATH ANGLE [NDIC
730.00	740.00	10.00	2,1	04 MON FLT PATH ACCEL INDIC
730.00	740.00	10.00	2,1	01 MON ROLL ATT INDIC
730.00	740.00	10.00	2,1	19 MON PITCH REF INDIC
730.00	740.00	10.00	3A	10 MONITOR AIRSPEED INDIC
730.00			00EY21	PILOT EXT VIS SCAN
740.00			160069	SET SPEED BRAKES
744.00			180048	MON ADF/RM1-2
744.00	748.26	2.26	6E	26 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
745.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
745.00			168113	CROSS REIFF
748.00			180070	SET AUTO BRAKES
748.00	750.62	2.02	40	43 SET AUTO BRAKE SEL SW TO MED
750.62	750.88	0.26	40	40 MON AUTO BRAKE INOP LT OFF
755.00			00EV01	C/P EXT VIS SCAN
758.00	760.00	\$.00	14	10 PILOT EXTERNAL VISION SCAN
785.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
765.00	776.00	10.00	2K	14 MON MAP VIDEO
765.00	775.00	10.00	25	46 MON STRAIGHT TREND VECTOR SYMBOL
766.00	778.00	10.00	2X	SS MON CURVED TREND VECTOR SYMBOLS
765.00	775.00	10.00	2,	OS MON FLT PATH ANGLE
765.00	775.00	10.00	2J 2J	04 MON FLT PATH ACCEL INDIC 01 MON ROLL ATT INDIC
765.00	775.00	10.00		01 MON ROLL ATT INDIC 19 MON PITCH REF INDIC
765.00	775.00	10.00	2,	
785.00	775.00	10.00	3A	10 MONITOR AIRSPEED INDIC
775.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
775.00	785.00	10.00	2K	14 MON MAP VIDEO
775.00	785.00	10.00	28	46 MON STRAIGHT TREND VECTOR SYMBOL

SINCE MIS	BION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
775.00	785.00	10.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
775.00	785.00	10.00	2J OS MON FLT PATH ANGLE Indic
775.00	785.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
775.00	785.00	10.00	2J 01 MON ROLL ATT INDIC
778.00	785.00	10.00	2J 19 MON PITCH REF INDIC
775.00	785.00	10.00	3A 10 MONITOR AIRSPEED INDIC
775.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
800.00			1600\$\$ REPORT RUNWAY IN SIGHT
900.00	802.00	2.00	BA O1 VIEW RUWWAY AMEAD
802.00	803.00	1.00	1PIGO074 CALL OUT -(RUMWAY ! SITE]
805.00		•	00EV21 PILOT EXT VIS SCAN
808.00			180018 FLAP SET PROCEDURE
808.00	800.70	0.70	1P 10 MONITOR CALL-OUT
\$10.69	812.92	2.23	4E 15 MONITOR FLAP Position indicator
812.71	815.21	2.50	4E 16 CHECK FLAP LEVER AN POSITION INDIC AGREE
811.69	812.86	1.17	4N 03 MON LE FLAPS-IN- Transit Lt on
812.86	814.03	1.17	4N 04 MON LE FLAPS-IN- Transit Lt off
808.00			160025 SET FLAPS TO FLAPS 15
809.00	811.46	2.46	4E 11 SET FLAP CONT LEVER TO FLAPS 18
813.00	813.70	0.70	1P180062 CALL OUT -[FLAPS 15
812.00			160042 MON ADF/RMI-1
815.00			1800S9 CROSS RWY 08 OUTER Marker
815.00	815.72	0.72	3V 11 MONITOR OUTER MARKEI LT OM AND AUDIBLE SIGNAL
817.00	818.80	1.80	1P 13 MONITOR CALL-OUT
815.00			188L14 CROSS CATTA LOM-GEAR THEM EXTENDED AND 155 KCAS MAINTAINED
815.00			180049 MON RADIO ALTIMETER
815.00	\$17.00	2.00	3J 01 MON RADIO ALT ALTITUDE INDIC
\$20.00			160060 EXTEND LANDING GEAR
820.00	829.27	3.27	4D OS SET LANDING GEAR LEVER TO DOWN POSITION
823 .00	823.54	0.54	4D OS MONITOR MOSE GEAR Down and locked Lt On
823.50	824.04	0.54	4D 09 MONITOR LEFT/RT GEA DOWN AND LOCKED LT ON
820.00			190071 FLIGHT INSTRUMENT SCAN -A2, PILOT
845.00			160062 LANDING CHECKLIST
845.00	846.00	1.00	88090001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
847.00	847.60	0.60	1P160076 CALL OUT -[RECALL]
847.60	848.00	0.40	1P180077 CALL OUT -(CHECKED)
848.00	849.00	1.00	88090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD

SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE Task
850.00	850.70	0.70	1P160078 CALL OUT -[SPEED Brakes]
851.00	852.30	1.30	1P 02 MONITOR CALL-OUT
852.50	853.50	1.00	88090001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
854.50	855.20	0.70	1P180080 CALL OUT -[LANDING GEAR]
855.20	856.20	1.00	1P100081 CALL OUT -(DOWN, THREE GREEN)
858.20	\$57.20	1.00	8B090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
858.20	858.60	0.40	1P160082 CALL OUT -[FLAP8]
\$.60	859.70	1.10	1P180083 CALL OUT - (FIFTEEN GREEN LIGHT)
861.10	\$62.20	1.10	1P180084 CALL OUT -[CHECKL!ST COMPLETE]
861.10	862.20	1.10	1P 12 MONITOR CALL-OUT
850.00			ODEV21 PILOT EXT VIS SCAN
855.00			180071 FLIGHT INSTRUMENT 8CAN -A2, PILOT
885.00			ODEYO2 C/P EXT VIS SCAN
885.00	876.00	10.00	BA 10 PILOT EXTERNAL VISION SCAN
877.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT
977.00	887.00	10.00	2K 14 MON MAP VIDEO
877.00	887.00	10.00	2K 46 MON STRAIGHT TREND Vector symbol
877.00	887.00	10.00	2K 33 MON CURVED TREND Vector symbols
877.00	887.00	10.00	2J OS MON FLT PATH ANGLE INDIC
■77.00	887.00	10.00	2J 04 MON FLT PATH ACCEL INDIC
877.00	887.00	10.00	2J 01 MON ROLL ATT INDIC
877.00	887.00	10.00	2J 19 MON PITCH REF INDIC
877.00	867.00	10.00	3A 10 MONITOR AIRSPEED INDIC
.00			030007 ENGINE INSTRUMENT SCAN
889.00	889.44	0.44	7F 25 MON ENG NO 1 EPR IND
889.00	889.44	0.44	7F 30 MON ENG NO 2 EPR IND
889.44	889.88	0.44	7F 21 MON NO 1 ENG N1 IND
889.44	161.88	0.44	7F 22 MON NO 2 ENG N1 IND
189.80	890.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
881.88	800.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
890.32	890.78	0.44	7F 23 MON NO 1 ENG N2 IND
890.32	890.76	0.44	7F 24 MON NO 2 ENG N2 IND
\$90.76	891.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic
880.78	891.20	0.44	7F 34 MON ENG NO 2 FUEL FLOW INDIC
891.20	881.64	0.44	7F 09 MON NO 1 ENG O'IL Press (ndic
801.84	892.00	0.44	7F 10 MON NO 1 ENG OIL Temp indic
891.64	802.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
892.08	802.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
892.08	892.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC

SINCE MIS	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK	
892.52	892.96	0.44	7F 12 MON HO 1 ENG VIBR TION AMPLITUDE IND	A- IC
892.52	492.96	0.44	7F 20 MON MO 2 ENG VIBR Amplitude indic	
885.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT	
895.00			160049 MON RADIO ALTIMETER	
895.00	897.00	2.00	3J 01 MON RADIO ALT ALTITUDE INDIC	
900.00			GOEVO4 C/P EXT VIS SCAN	
\$00.00	920.00	20.00	BA 10 PILOT EXTERNAL Vision Scan	
923.00			10000S DESCEND THRU -DECISION HEIGTH	
923.00	925.58	2.58	3R 12 MON DECISION HQT on FDI	LT
925.58	926.38	0.80	1P160086 CALL OUT -[DECIS:	ON
118.00			ODEY21 PILOT EXT VIS SCAN	
\$ 20.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT	
925.00			190084 CROSS RWY OR MIDDLE MARKER	
925.00	926.81	1.91	3V 13 MONITOR MIDDLE Marker annun Lt on And Audible Signal	
926.00			168L15 CROSS MIDDLE MARKER	
930.00			ODEVO2 C/P EXT VIS SCAN	
930.00	940.00	10.00	SA 10 PILOT EXTERNAL VISION SCAN	
940.00			180073 FLIGHT INSTRUMENT 8CAM -A1, COPILOT	
940.00	0 50.00	10.00	2K 14 MON MAP VIDEO	
940.00	950.00	10.00	2K 46 MON STRAIGHT TRENI Vector symbol	0
840.00	950.00	10.00	2K 33 MON CURVED TREND VECTOR SYMBOLS	
840.00	950.00	10.00	2J OS MON FLT PATH ANGLI Indic	E
840.00	950.00	10.00	2J 04 MON FLT PATH ACCE INDIC	L
940.00	950.00	10.00	2J 01 MON ROLL ATT INDIC	:
940.00	950.00	10.00	2J 19 MON PITCH REF IND	1 C
940.00	960.00	10.00	3A 10 MONITOR AIRSPEED INDIC	
941.00			16BL16 CROSS RW THRESHOLD	
950.00			18BL17 TOUCHDOWN	
950.00			180038 TOUCHDOWN AND ROLL- OUT, AGCS AUTO LAND MODE CONTROLS A/C UNTILL SORTS	
950.00		30.00	2J 15 MON TV VIDEO	
950.00		30.00	2J 40 MON EADI RMTT	
850.00	980.00	\$0.00	2J 41 MON EADI DRIFT IN	DIC
950.00	980.00	30.00	7F 28 MON ENG NO 1 EPR	I ND
950.00	980.00	30.00	7F 30 MON ENG NO 2 EPR	IND
\$80.00			190036 TOUCHDOWN AND ROLL- OUT, AGCS AUTO LAND MODE CONTROLS A/C UNTILL SORTS	
980.00	1010.00	10.00	2J 15 MON TV VIDEO	
980.00	1010.00	30.00	2J 40 MON EAD! RNWY	
980.00	1010.00	30.00	2J 41 MON EAD! DRIFT IN	DIC
980.00	1010.00	30.00	7F 25 MON ENG NO 1 EPR	I ND
980.00	1010.00	30.00	7F 30 MON ENG NO 2 EPR	I ND

SINCE MIS	SION START END	ACTIVITY Time	EVENT/PROCEDURE Task
1010.00			180037 DISENGAGE AGCS
1010.00			OCEY23 PILOT EXT VIS SCAN
984.00			16DL71 HANDOFF TO GROUND
984.00	985.60	1.80	1D16XXO1 MON IMPORMATION MANAGEMENT ATENSON
985.60	987.60	2.00	1D18XXO2 MON INFORMATION Management Display (Mode-8 uplink prog) Amber
987.80	989.40	1.80	12180001 LIME SELECT [ATC UPLINKS PENDING]
889.40	997.40	8.00	1D16XX87 READ -EXIT RUNWAY HEXT INTERSECTION. MONITOR GROUND 121.9 WHEN CLEAR OF RUNWAY
997.40	999.20	1.60	1X180041 LIME SELECT [WILCO]
1000.00			16DL72 TUNE AND MONITOR ATL GRMD ON 121.8/VHF-2L
1000.00	1004.88	4.80	18 01 MON VHF-2L-FREG IND
1000.00	1002.90	2.90	1B 02 SET YMF-2L FREQ- WHOLE NO.S
1002.90	1004.88	1.00	1B 03 SET YMF-2L FREQ - Fractions
1004.90	1006.39	1.49	1B OS SET VHF-2 COMM TFR SW TO LEFT
1006.40	1008.40	2.00	1B 04 ADJ VHF-2 VOLUME
1009.00			16DL73 TAX! CLEARANCE FROM
1009.00	1010.60	1.80	1D16XXO1 MON INFORMATION Management Atenson
1010.60	1012.60	2.00	1D16XXO2 MON INFORMATION Management Display (Mode-s uplink PNDG) Amber
1012.60	1014.40	1.80	1X100001 LINE SELECT (ATC UPLINKS PENDING)
1014.40	1019.40	\$.00	1D16XX88 READ -TAXI TO RAMP VIA NE/SW TAXIWAY.
1019.40	1021.20	1.00	1X160041 LIME SELECT [WILCO]

B.5 ILS APPROACH WITH WEATHER DEVIATION—CONVENTIONAL FLIGHT DECK Flying Pilot

SINCE MISSIC BEGINNING	ON START END	ACTIVITY Time	EVENT/PROCEDURE TASK
130.00			090019 FLIGHT INSTRU
130.00	190.00	60.00	SR SS MON PITCH ATTITUDE INDIC ON FD1
130.00	190.00	80.00	3L 02 MON VERTICAL SPEED Indic
130.00	190.00	60.00	3A 10 MONITOR AIRSPEED INDIC
130.00	190.00	60.00	38 15 MONITOR A/C MEADING RELATIVE TO SELECTED MEADING OM CI
165.00			030007 ENGINE INSTRUMENT SCAN
150.00			OOEYOS C/P EXT VIS SCAN
195.00			160048 MON ADF/RM1-2
195.00			18XB91 VECTOR FOR DOWNWIND OPTIONAL WX AVOIDNO
195.00	207.00	12.00	1P18XX91 M 51S,TURN RT HDQ270 DESCRID AND MAINTAIN 8000 FT,CONTACT ATL APPR ON 127.25.
220.00	232.00	12.00	1P18AA81 NASA 515, TURN RT. MDG 300, DESCEND AND MALINTAIN 8000 FT CONTACT ATL 127.25
240.00			140007 HEADING CHANGE PROC.
240.00	250.00	10.00	38 01 MONITOR A/C HEADING RELATIVE TO SELECTED HDQ ON CI
240.00	250.00	10.00	4A 28 ACT FLT CONTROL TO Change HDG
240.00	250.00	10.00	SL OZ MON VERTICAL SPEED Indic
240.00	244.92	4.92	38 11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
245.00	285.00	10.00	3R S8 MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
240.00			16XL02 BEGIN TURN TO AVOID MEAVY WEATHER
210.00			18BL03 DESCEND THRU 11000.
200.00			18AAO1 ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERM NED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHAR AT 5000 FT.
200.00	202.73	2.73	48 O7 MAKE MINOR THRUST Adjustment
200.00	205.00	5.00	4A 64 MANUALLY CONTROL A/C
240.00			160092 TUNE ATL APPROACH ON 127.25
246.00			180083 CONTACT ATL APPROACH ON 127.25
251.90	255.00	4.00	1P1SYY90 MASA S15,ATL APPR, ROGER.

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SINCE MISSIC BEGINNING	N START	ACTIVITY Time	EVENT/PR TASK	
210.00			090017	FLIGHT INSTRUMENT SCAN - C
210.00	240.00	30.00	3 R	58 MON PITCH ATTITUDE INDIC ON FDI
210.00	240.00	30.00	\$L	02 MON VERTICAL SPEED INDIC
210.00	240.00	\$0.00	3.4	16 MONITOR AIRSPEED INDIC
210.00	240.00	30.00	25	OT MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
255.00			00EY03	C/P EXT VIS SCAN
270.00			00EA03	C/P EXT VIS SCAN
250.00			090039	FLIGHT INSTRUMENT SCAN - F
250.00	370.00	120.00	38	S7 MON PITCH ATTITUDE INDIC ON FDI
250.00	370.00	120.00	\$ L	03 MON VERTICAL SPEED INDIC
250.00	\$70.00	120.00	3.4	11 MONITOR AIRSPEED INDIC
250.00	\$70.00	120.00	15	15 MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON CI
288.00			030007	ENGINE INSTRUMENT SCAN
295.00			00E408	C/P EXT VIS SCAN
330.00			188801	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING SAHRR AT 5000 FT.
330.00	332.73	2.73	41	07 MAKE MINOR THRUST ADJUSTMENT
330.00	335.00	\$.00	4A	84 MANUALLY CONTROL A/C
340.00			00EV04	C/P EXT VIS SCAN
363.00			030007	ENGINE INSTRUMENT SCAN
370.00			16BL04	DESCEND THRU 8600.
370.00			10X894	ALT STEP DOWN AND VECTOR TO RESUME AFTER WX AVOIDNCE
374.00	\$81.00	7.00	1P1(BBB94 MASA \$15, TURN LEFT Heading 240, Descend And Maintain \$000 FT
370.00			090017	FLIGHT INSTRUMENT SCAN - C
370.00	400.00	30.00	38	SG MON PITCH ATTITUDE INDIC ON FDI
370.00	400.00	\$0.00	31.	02 MON VERTICAL SPEED INDIC
370.00	400.00	30.00	3.4	10 MONITOR AIRSPEED INDIC
370.00	400.00	30.00	::	OS MONITOR A/C MEADING RELATIVE TO SELECTED HDQ ON CI
390.00			00EY08	C/P EXT VIS SCAN
400.00			140007	HEADING CHANGE PROC.
400.00	410.00	10.00	18	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDQ ON C!
400.00	410.00	10.00	4A	28 ACT FLT CONTROL TO CHANGE HDG
400.00	410.00	10.00	3L	02 MON VERTICAL SPEED INDIC

SINCE MISSIC BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE Task
400.00	404.92	4.92	38 11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
405.00	415.00	10.00	SR 58 MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
415.00			OGEV21 PILOT EXT VIS SCAN
415.00	420.00	5.00	BA 10 PILOT EXTERNAL

SINCE MISSION		ACTIVITY	EVENT/PRO	CEDURE
3EQ MN MQ 128.00	END	TEME	TASK 180007	DESCENT AND APPROACH CHECKLIST - 3
128.00	129.50	1.50	19	02 MONITOR CAL-OUT
146.00	147.90	1.90	19	14 MONITOR CALL-OUT
148.00	150.57	2.57	3A	07 MON Y-REF BUG SETTING
148.00	150.57	2.57	#A	OS SET V-REF BUG
151.00	184.00	3.00	3.4	18 CAPT CHECK F.O. < S V-REF BUG SETTING
154.00	155.80	1.60	12	08 MONITOR REPORT
167.60	188.90	1.30	1 P	02 MONITOR CALL-OUT
130.00			090019	FLIGHT INSTRUMENT SCAN - D
130.00	190.00	60.00	38	66 MON PITCH ATTITUDE INDIC ON FDI
130.00	190.00	60.00	31.	02 MON VERTICAL SPEED. INDIC
130.00	190.00	60.00	3A	10 MONITOR AIRSPEED INDIC
130.00	100.00	€0.00	38	15 MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON CI
165.00			030007	ENGINE INSTRUMENT SCAN
172.00			00EY03	C/P EXT VIS SCAN
195.00			180048	MON ADF/RMI-2
198.00			16XL91	VECTOR FOR DOWN WIND - OPTIONAL WX AVOIDANCE
195.00	198.60	1.60	1016	XX01 MON INFORMATION MANAGEMENT ATENSON
198.60	198.60	2.00	1016	XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDG) AMBER
200.40	210.40	10.00	1016	AAS1 MONITOR UPLINK CALL- OUT FROM COPILOT
226.00	227.60	1.80	1010	BXX01 MON ! NFORMATION MANAGEMENT ATENSON
227.60	229.60	2.00	1014	BXX02 MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PHDG] AMBER
231.40	241.40	10.00	101	BAL91 MONITOR COPILOT
240.00	•		140007	MEADING CHANGE PROC.
240.00	250.00	10.00	11	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
240.00	250.00	10.90	44	28 ACT FLT CONTROL TO CHANGE HDG
240.00	250.00	10.00	8L	02 MON VERTICAL SPEED INDIC
240.00	244.92	4.92	28	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
245.00	255.00	10.00	\$R	SS MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
240.00			16XL02	BEGIN TURN TO AVOID MEAVY WEATHER
210.00			108103	DESCEND THRU 11000.
200.00			184401	ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT NAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT 5000 FT.
200.00	202.73	2.7\$	49	07 MAKE MINOR THRUST ADJUSTMENT
200.00	20\$.00	\$.00	44	64 MANUALLY CONTROL A/C

SINCE MISS	IOM START	ACTIVITY TIME	EVENT/PROCI TASK	DURE
240.00				NE ATL APPROACH 1 127.25
248.00			16DL93 MC	NITOR ATL APPROACH 127.25/VHF-2L
210.00				IGHT INSTRUMENT AN - C
210.00	240.00	30.00	an t	S MON PITCH ATTITUDE INDIC ON FDI
210.00	240.00	30.00	3L (Z MON VERTICAL SPEED
210.00	240.00	30.00	3A 1	O MONITOR AIRSPEED
210.00	240.00	30.00	3\$ (1 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON C1
255.00			00EV03 C/	P EXT VIS SCAN
270.00			00EV03 C	P EXT VIS SCAN
250.00				IGHT INSTRUMENT AN - F
250.00	\$70.00	120.00	3A 8	7 MON PITCH ATTITUDE INDIC ON FDI
250.00	370.00	120.00	\$L (S MON VERTICAL SPEED INDIC
250.00	370.00	120.00	3A 1	1 MONITOR AIRSPEED INDIC
250.00	\$70.00	120.00	\$\$ 1	S MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON CI
288.00				GINE INSTRUMENT AN
295.00			00EY09 C/	P EXT VIS SCAN
330.00			9(22 CI P P P	JUST THRUST AND TCH TO MAINTAIN A O FPM DESCENT AT O KCAS USING PITCH O KCAS USING PITCH O KOAS DETERMINED AT THIS SHOULD RMIT DECEL TO 210 R CROSSING BAHRR SOOO FT.
330.00	332.73	2.73	48 (7 MAKE MINOR THRUST ADJUSTMENT
330.00	\$35.00	5.00	4A (4 MANUALLY CONTROL A/C
340.00			00EV04 C/	P EXT VIS SCAN
363.00				GINE INSTRUMENT An
370.00			•	SCEND THRU 8600.
370.00			A	TITUDE STEP DOWN D VECTOR TO RESUME TER WX AVOIDANCE
379.00	180.60	1.00	1018330	1 MON INFORMATION MANAGEMENT ATENSON
380.60	182.60	2.00	1016220	2 MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PHDG] AMBER
384.40	380.40	6.90	1 916AL 6	4 MON COPILOT - TURN LEFT MEADING 240. DESCEND AND MAIN- TAIN 5000 MSL.
370.00				IGHT INSTRUMENT AN - C
370.00	400.00	30.00	3R (S MON PITCH ATTITUDE
370.00	400.00	30.00	3L 0	2 MON VERTICAL SPEED INDIC
\$70.00	400.00	30.00	3A 1	O MONITOR AIRSPEED INDIC
370.00	400.00	30.00	38 0	1 MONITOR A/C HEADING RELATIVE TO SELECTED HDQ ON CI
390.00			00EV08 C/	P EXT VIS SCAN
400.00			140007 HE	ADING CHANGE PROC.

SINCE MISSION BEGINNING	START END	ACTIVITY TIME	EVENT/PI Tasi	ROCEDURE
400.00	410.00	10.00	18	01 MONITOR A/C MEADING RELATIVE TO SELECTED MDQ ON CI
400.00	410.00	10.00	4A	28 ACT FLT CONTROL TO CHANGE HDG
400.00	410.00	10.00	\$ L	02 MON VERTICAL SPEED INDIC
400.00	404.02	4.92	18	11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
405.00	415.00	10.00	38	SS MON A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
415.00			00EY21	PILOT EXT VIS SCAN
415.00	420.00	5.00	€A.	10 PILOT EXTERNAL YISION SCAN
425.00			090017	FLIGHT INSTRUMENT SCAN - C
425.00	455.00	30.00	38	68 MON PITCH ATTITUDE INDIC ON FDI
425.00	455.00	30.00	\$L	02 MON VERTICAL SPEED INDIC
425.00	455.00	10.00	3A	10 MONITOR AIRSPEED INDIC
425.00	455.00	30.00	35	OI MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
460.00			080017	FLIGHT INSTRUMENT SCAN - C
460.00	400.00	30.00	38	SO MON PITCH ATTITUDE INDIC ON FDI
460.00	490.00	30.00	3L	02 MON VERTICAL SPEED INDIC
460.00	490.00	30.00	3A	10 MONITOR AIRSPEED INDIC
480.00	400.00	30.00	:8	01 MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
430.00			030007	ENGINE INSTRUMENT

B.6 ILS APPROACH WITH WEATHER DEVIATION—CONVENTIONAL FLIGHT DECK Nonflying Pilot

SINCE MISS BEGINNING	ION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
95.00	185.44	0.44	7F 28 MON ENG PPR IND
85.00	185.44	0.44	7F 30 MON ENG No 4 EPR IND
165.44	165.88	0.44	7F 21 MON NO 1 ENG Ht IND
165.44	165.88	0.44	7F 22 MON NO 2 ENG N1 IND
165.88	166.32	0.44	7F 31 MONEMO NO 1 EXH GAS TEMP IND
105.88	166.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
166.32	166.76	0.44	7F 28 MON NO 1 ENG M2 IND
166.32	166.76	0.44	7F 24 MON NO 2 ENG N2 IND
106.76	167.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic
166.76	167.20	0.44	7F 34 MON ENG NO 2 FUEL Flow INDIC
167.20	187.84	0.44	7F OF MON NO 1 ENG CIL Press indic
187.64	160.00	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC
167.64	168.08	0.44	7F 18 MON NO 2 ENQ OIL Temp indic
180.08	168.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
168.08	168.52	0.44	7F 18 MON NO 2 ENG OIL QTY INDIC
168.52	168.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
168.52	168.96	0.44	7F 20 MON NO 2 ENG YIBR AMPLITUDE INDIC
150.00			ODEYOS C/P EXT VIS SCAN
150.00	175.00	25.00	8A 11 PILOT EXTERNAL Yision Scan
195.00			100048 MON ADF/RMI-2
195.00	197.26	2.26	SE 26 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
195.00			18XB91 VECTOR FOR DOWNWIND OPTIONAL WX AVOIDING
195.00	207.00	12.00	1P16ZX81 N 515,TURN RT HDG270 DE3CHD AND MAINTAIN 6000 FT,CONTACT ATL APPR ON 127.25.
207.00	214.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
214.00	217.00	3.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
207.00	217.00	10.00	1P10XY91 APPROACH, SIS HAS STROMG WX RADAR ECHOES, REQUEST HDQ 300.WILL ADVISE CLR.
220.00	232.00	12.00	1916AAD1 MASA S15. TURN RT. MDG 300. DESCEND AND MAINTAIN 8000 FT COMTACT ATL 127.26
232.00	239.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK 8W
232.00	239.00	7.00	1P10B891 515, ROGER, HDG 300, Maintain 8000, Appr On 127.25
240.00			140007 HEADING CHANGE PROC.
240.00			16XL02 BEGIN TURN TO AVOID NEAVY WEATHER
210.00			168LO3 DESCEND THRU 11000.
200.00			18A01 ADJUST THRUST AND PITCH TO MAINTAIN A 800 FPM DESCENT AT 236 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT 800 FT.
240.00			160092 TUNE ATL APPROACH OM 127.25
240.00	244.88	4.88	1B O1 MON VHF-2L FREQ IND
240.00	242.80	2.80	1B 02 SET VHF-2L FREQ- WHOLE NO.S
		•	#N925 #9.4

SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE Task
242.88	244.88	1.88	1B OS SET YMF-2L FREQ - Fractions
248.00			180003 CONTACT ATL APPROACH ON 127.23
246.00	247.49	1.49	1B 05 SET VHF-2 COMM TFR SW TO LEFT
248.40	251.90	3.50	1A 10 ACT PUSH-TO-TALK SW
248.40	251.90	\$.50	1P16XX93 ATL APPR.NASA 615 Descending to 6000.
251.90	255.90	4.00	1P16YY90 MASA 518,ATL APPR. Roger.
210.00			690017 FLIGHT INSTRUMENT SCAN - C
285.00			ODEVOS C/P EXT VIS SCAN
255.00	270.00	18.00	8A 10 PILOT EXTERNAL Vision Scan
270.00			ODEYOS C/P EXT VIS SCAN
270.00	285.00	15.00	8A 10 PILOT EXTERNAL Vision Scan
250.00	-		090039 FLIGHT INSTRUMENT Scan - F
288.00			030007 ENGINE INSTRUMENT SCAM
	288.44	0.44	7F 25 MON ENG NO 1 EPR IND
288.00 288.00	288.44	0.44	7F 30 MON ENG NO 2 EPR IND
	288.88	0.44	7F 21 MON NO 1 ENG N1 IND
288.44 288.44	288.88	0.44	7F 22 MON NO 2 ENG N1 IND
288.88	289.32	0.44	7F 31 MON ENG NO 1 EXH QAS Temp ind
			7F 32 MON ENG NO 2 EXH GAS
288.88	289.32	0.44	TEMP IND
289.32	289.78	0.44	7F 23 MON NO 1 ENG M2 IND
289.32	289.76	0.44	7F 24 MON NO 2 ENG N2 IND 7F 23 MON ENG NO 1 FUEL
289.76	290.20	0.44	FLOW INDIC
289.76	200.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
290.20	200.84	0.44	7F 09 MON NO 1 ENG OIL Press indic
290.84	291.08	0.44	7F 10 MON NO 1 ENG OIL Temp indic
290.64	291.08	0.44	7F 18 MON NO 2 ENG OIL TEMP INDIC
291.08	291.52	0.44	7F 11 MON NO 1 ENG OIL GTY Indic
291.08	291.52	0.44	7F 18 MON NO 2 ENG OIL QTY INDIC
291.52	291.96	0.44	7F 12 MON NO 1 ENG YIBRA- Tion amplitude indic
291.52	201.96	0.44	7F 20 MON NO 2 ENG VIBR Amplitude indic
295.00			ODEYOS C/P EXT VIS SCAN
295.00	340.00	45.00	8A 12 PILOT EXTERNAL VISION SCAN
			16AAO1 ADJUST THRUST AND
330.00			PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHAR AT 8000 FT.
340.00			ODEVO4 C/P EXT VIS SCAN
340.00	360.00	20.00	8A 10 PILOT EXTERNAL Vision Scan

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SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK	
363.00			030007 ENGINE INSTRUMENT SCAN	
363.00	161.44	0.44	7F 25 MON ENG NO 1 EPR IND)
363.00	363.44	0.44	7F 30 MON ENG NO 2 EPR IND)
363.44	363.88	0.44	7F 21 MON NO 1 ENG N1 IND	
363.44	363.88	0.44	7F 22 MON NO 2 ENG N1 IND	_
363.88	164.32	0.44	7F 31 MON ENG NO 1 EXH GAS Temp ind	;
363.88	364.32	0.44	7F 32 MON ENG NO 2 EXH GAS Temp ind	į
\$64.32	364.76	0.44	7F 28 MON NO 1 ENG N2 1ND	
364.32	364.76	0.44	7F 24 MON NO 2 ENG N2 IND	
384.78	365.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic	
364.76	366.20	0.44	7F 34 MON ENG NO 2 FUEL FLOW INDIC	
366.20	365.84	0.44	7F 09 MON NO 1 ENG OIL Press indic	
306.64	306.08	0.44	7F 10 MON NO 1 ENG OIL Temp Indic	
365.64	366.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic	
300.08	300.52	0.44	7F 11 MON NO 1 EMG OIL GTY INDIC	1
300.00	\$60.52	0.44	7F 18 MON NO 2 EMG OIL QTY INDIC	
366.52	200.00	0.44	7F 12 MON NO 1 ENQ VIBRA- Tion amplitude indic	
306.52	366.98	0.44	7F 20 MON NO 2 ENG VIBR Amplitude Indic	
370.00			19BL04 DESCEND THRU 8600.	
\$70.00			16X894 ALT STEP DOWN AND Vector to resume After wa avoidnce	
370.00	373.00	3.00	1918AA94 APPROACH, \$15 IS Clear of Weather	
\$70.00	171.00	3.00	1A 25 ACTUATE COMME 2 PUSH- To-Talk SW	•
374.00	381.00	7.00	1P108894 MASA 815, TURM LEFT MEADING 240, DESCEND AND MAINTAIN 5000 FT	
381.00	884.00	3.00	1A 25 ACTUATE COMM 2 PUSH- To-Talk SW	•
384.00	285.70	1.70	1A 28 ACTUATE COMM 2 PUSH- To-Talk SW	•
381.00	386.00	8.00	1918CC94 \$15, ROGER. TURN LT HDG 240,MAINTH \$000.	
\$70.00			990017 FLIGHT INSTRUMENT SCAN - C	
390.00			ODEYOS C/P EXT VIS SCAN	
390.00	430.00	40.00	SA 11 PILOT EXTERNAL Vision Scan	
400.00			140007 HEADING CHANGE PROC.	
415.00			OCEVZ1 PILOT EXT VIS SCAN	
425.00			090017 FLIGHT INSTRUMENT SCAN - C	
460.00			090017 FLIGHT INSTRUMENT Scan - C	
430.00			030007 EWGINE INSTRUMENT Scan	
430.00	430.44	0.44	7F 25 MON ENG NO 1 EPR INC	
430.00	430.44	0.44	7F 30 MON ENG NO 2 EPR IND)
430.44	410.88	0.44	7F 21 MON NO 1 ENG N1 IND	
430.44	430.88	0.44	7F 22 MON NO 2 ENG N1 IMD	

SINCE MISSIC BEGINNING	ON START END	ACTIVITY Time	EVENT/PROCED TASK	JRÉ
430.88	431.32	0.44	7F 31	MON ENG NO 1 EXH GAS TEMP IND
430.88	431.32	0.44	7F \$2	MON ENG NO 2 EXH GAS TEMP IND
431.32	431.76	0.44	7F 25	MON NO 1 ENG N2 IND
431.32	431.76	0.44	7F 24	MON NO 2 ENG N2 IND
431.76	432.20	0.44	7F \$\$	MON ENG NO 1 FUEL FLOW INDIC
431.76	432.20	0.44	7F 24	MON ENG NO 2 FUEL FLOW INDIC
432.20	432.84	0.44	7F 09	MON NO 1 ENG OIL PRESS INDIC
432.64	433.08	0.44	7F 10	MON NO 1 ENG OIL TEMP INDIC
432.84	433.08	0.44	7F 18	MON NO 2 ENG OIL TEMP INDIC
483.08	433.52	0.44	7F 11	MON NO 1 ENG OIL GTY
433.08	433.52	0.44	7F 10	MON NO 2 ENG OIL QTY INDIC
433.52	433.96	0.44	7F 12	MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
433.52	433.96	0.44	7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC
440.00			00EV03 C/P	EXT VIS SCAN
440.00	455.00	15.00	8A 10	PILOT EXTERNAL VISION SCAN

SINCE MISS	BION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
66.00	END		030007 ENGINE INSTRUM SCAN
185.00	185.44	0.44	7F 26 MON ENG NO 1 EPR IND
165.00	165.44	0.44	7F 80 MON ENG NO 2 EPR IND
185.44	105.88	0.44	7F 21 MON NO 1 ENG M1 IND
185.44	165.88	0.44	7F 22 MON NG 2 ENG N1 IND
165.88	166.32	0.44	7F \$1 MON ENG NO 1 EXM GAS TEMP IND
185.88	166.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
186.32	168.76	0.44	7F 23 MON NO 1 ENG N2 IND
166.32	166.76	0.44	7F 24 MON NO 2 ENG N2 1ND
188.76	167.20	0.44	7F 33 MON ENG NO 1 PUEL FLOW INDIC
166.76	187.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
167.20	187.64	0.44	7F OR MON HO 1 ENG OIL PRESS INDIC
167.64	168.08	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC
167.64	166.08	0.44	7F 18 MON NO 2 ENG OIL TEMP INDIC
168.08	188.52	0.44	7F 11 MON NO 1 ENG CIL GTY INDIC
188.08	100.52	0.44	7F 19 MON NO 2 ENG GIL QTY INDIC
168.52	168.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
166.52	168.96	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC
172.00			OCEYOS C/P EXT VIS SCAN
172.00	187.00	15.00	BA 10 PILOT EXTERNAL VISION SCAN
195.00			160048 MON ADF/RMI-2
185.00	197.26	2.26	SE 26 MON ADP NO.1 POINTER On Adf/RMI 2 INDIC
195.00			19XL91 VECTOR FOR DOWN WIND - OPTIONAL WX AVOIDANCE
195.00	190.80	1.60	1D18XX01 MON INFORMATION MANAGEMENT ATENSON
198.80	198.60	2.00	1918XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDG) AMBER
198.80	200.40	1.00	1X180001 LIME SELECT [ATC UPLIMES PENDING]

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SINCE WISS	ON START	ACTIVITY TIME	EVENT/PROCEDURE TASK
200.40	210.40	10.00	1016XX91 READ -TURN RT MDG 270,DESCMD AND MAIN- TAIN 6000 FT,MONITOR ATL APPR ON 127.28
210.40	212.20	1.80	1X180030 LINE BELECT [UMABLE]
212.20	214.00	1.80	11180024 LIME SELECT (STRONG With Radar Echoes)
214.00	215.80	1.80	11100014 LIME SELECT [MEADING REQUEST]
215.80	217.00	1.20	1X180033 PRESS KEY [3]
217.00	218.20	1.20	1X160040 PRESS KEY [0]
218.20	219.40	1.20	1X160040 PRESS KEY [0]
219.40	221.20	1.00	1X160029 LINE SELECT [REQ TEM MDQ XXX-WILL ADVISE]
226.00	227.80	1.60	1016ZX01 MON INFORMATION MANAGEMENT ATENSON
227.60	229.60	2.00	1D16XX02 MON INFORMATION MANAGEMENT DISPLAT [MODE-S UPLINK PNDG] AMBER
229.60	231.40	1.80	1X160001 LIME SELECT [ATC Uplinks pending]
231.40	241.40	10.00	1D16XL91 READ -TURN RT HDG 200, DESCEND AND MAINTAIN 8000 MSL MONITOR APPR 127.25
241.40	243.20	1.80	1X180030 LINE SELECT [UNABLE]
240.00			140007 HEADING CHANGE PROC.
240.00			16XLO2 BEGIN TURN TO AVOID HEAVY WEATHER
210.00			16BLO3 DESCEND THRU 11000.
200.00			16AA01 ADJUST THRUST AND PITCH TO MAINTAIN A BOO FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT SOOO FT.
240.00			180092 TUME ATL APPROACH ON 127.25
240.00	244.88	4.88	18 01 MON VHF-2L FREQ IND
240.00	242.90	2.80	18 02 SET VHF-2L FREG- Whole No.8
242.88	244.88	1.98	18 03 SET VMF-2L FREG - Fractions
246.00			16DL93 MONITOR ATL APPROACH ON 127.25/YHF-2L
246.00	247.49	1.49	1B 05 SET YHF-2 COMM TFR SW TO LEFT
247.50	249.50	2.00	1B 04 ADJ VHF-2 VOLUME
210.00			090017 FLIGHT INSTRUMENT Scan - C
255.00			OGEVOS C/P EXT VIS SCAN
255.00	270.00	15.00	SA 10 PILOT EXTERNAL VISION SCAN
			OOEYOS G/P EXT VIS SCAN
270.00 270.00	285.00	15.00	SA 10 PILOT EXTERNAL VISION SCAN
250.00			090039 FLIGHT INSTRUMENT SCAN - F
208.00			030007 ENGINE INSTRUMENT SCAN
288.00	288.44	0.44	7F 25 MON ENG NO 1 EPR IND
288.00	288.44	0.44	7F 30 MON EME NO 2 EPR IND
288.44	288.88	0.44	7F 21 MON NO 1 ENG N1 IND
288.44	208.00	0.44	7F 22 MON NO 2 ENG N1 IND
288.88	280.32	0.44	7F 81 MON ENG NO 1 EXM GAS TEMP IND

SINCE MISS	ION START	ACTIVITY Time	EVENT/PROCEDURE TASK
288.88	289.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
280.32	289.76	0.44	. 7F 23 MON NO 1 ENG N2 IND
289.32	289.76	0.44	7F 24 MON NO 2 ENG N2 IND
289.76	290.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic
289.76	290.20	0.44	7F 24 MON ENG NO 2 FUEL Flow Indic
290.20	290.64	0.44	7F 09 MON NO 1 ENG OIL Press indic
290.64	291.00	0.44	7F 16 MON NO 1 EMG OIL Temp indic
290.84	291.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
291.00	291.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
291.08	291.52	0.44	7F 19 MON NO 2 ENG OIL GTY INDIC
291.52	291.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
291.52	291.96	0.44	7F 20 MON NO 2 ENG VIBR Amplitude indic
295.00			ODEYOD C/P EXT VIS SCAN
295.00	340.00	45.00	8A 12 PILOT EXTERNAL Visiom Scan
330.00			18AA01 ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHRR AT 5000 FT.
\$40.00			ODEYO4 C/P EXT YIS SCAN
370.00			182194 ALTITUDE STEP DOWN AND VECTOR TO RESUME AFTER WX AVOIDANCE
370.00	\$71.80	1.00	1X160002 LIME SELECT [REQUEST FOR GLEARANCE]
371.80	373.60	1.80	1X10020 LIME SELECT (RESUME ON-COURSE)
379.00	\$80.60	1.60	1D16XX01 MON INFORMATION MANAGEMENT ATENSON
380.60	382.80	2.00	1D19XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PND01 AMBER
382.60	\$84.40	1.80	1X100001 LIME SELECT (ATC Uplinks pending)
384.40	390.40	8.00	1D16XL84 READ - TURN LEFT HEADING 240. DESCEND « MAINTAIN 8000 MSL.
390.40	392.20	1.80	1X180020 LINE SELECT (UNABLE)
370.00			090017 FLIGHT INSTRUMENT SCAN - C
390.00			OCEVOR C/P EXT VIS SCAN
300.00	430.00	40.00	8A 11 PILOT EXTERNAL Vision Scan
400.00			140007 HEADING CHANGE PROC.
415.00			ODEY21 PILOT EXT VIS SCAN
425.00			090017 FLIGHT INSTRUMENT SCAN - C
400.00			090017 FLIGHT INSTRUMENT SCAN - C
430.00			030007 ENGINE INSTRUMENT SCAN
430.00	430.44	0.44	7F 25 MON ENG NO 1 EPR IND

SINCE MISS BEGINNING	BION START END	ACTIVITY TIME
430.00	430.44	0.44
430.44	430.88	0.44
430.44	430.88	0.44
430.88	431.32	0.44
430.88	431.32	0.44
431.32	431.78	0.44
431.32	481.76	0.44
431.76	432.20	0.44
431.76	432.20	0.44
432.20	482.84	0.44
432.64	433.00	0.44
432.64	433.08	0.44
433.08	433.52	0.44
433.08	433.52	0.44
433.52	433.96	0.44
433.52	433.96	0.44

VENT/PRO	CEDUI	RE
7 F	30	MON ENG NO 2 EPR IND
7 F	21	MON NO 1 ENG N1 IND
7F	22	MON NO 2 ENG N1 IND
7F	81	MON ENG NO 1 EXH GAS TEMP IND
7#	32	MON ENG NO 2 EXH GAS TEMP IND
7F	23	MON NO 1 ENG N2 IND
7F	24	MON NO 2 ENG N2 IND
7 F	33	MON ENG NO 1 FUEL FLOW INDIC
7F	34	MON ENG NO 2 FUEL FLOW INDIC
7 F	09	MON NO 1 ENG OIL PRESS INDIC
7F	10	MON NO 1 ENG OIL TEMP INDIC
7#	18	MON NO 2 ENG OIL TEMP INDIC
7.F	11	MON NO 1 ENG OIL GTY
7F	19	MON NO 2 ENG OIL QTY INDIC
7#	12	MON NO 1 ENG YIBRA- TION AMPLITUDE INDIC

B.7 ILS APPROACH WITH WEATHER DEVIATION—ADVANCED FLIGHT DECK Flying Pilot

SINCE MISSIO BEGINNING	N START END	ACTIVITY Time	EVENT/PROCEDURE Task
185.00			090051 FLIGHT INSTRUME! SCAN -A1
.86.00	195.00	10.00	2J 02 MON PITCH (ITUDE INDIC
185.00	195.00	10.00	SL 02 MON VERTICAL SPEED Indic
185.00	195.00	10.00	3A 10 MONITOR AIRSPEED
185.00	185.00	10.00	2K 14 MON MAP VIDEO
185.00	195.00	10.00	2K 48 MON STRAIGHT TREND VECTOR SYMBOL
186.00	195.00	10.00	2K 33 MON CURVED TREND Vector symbols
195.00			160048 MON ADF/RMI-2
195.00			18X891 VECTOR FOR DOWNWIND OPTIONAL WX AVOIDED
195.00	207.00	12.00	1P1SXX91 H S1S,TURH RT`HDG270 DESCHD AND MAIHTAIN 8000 FT,CONTACT ATL APPR ON 127.2S.
220.00	232.00	12.00	1P16AA91 MASA \$15, TURM RT. HDG 300, DESCEND AND MAINTAIN 6000 FT CONTACT ATL 127.25
240.00			180081 ENTER/ARM NEW ALT IN MCP
240.00	242.47	2.47	2H 33 ROTATE ALT ENG KNOB
240.00	240.78	0.78	2H 31 MON ALT ENG MODE LT Blue - Alt eng mode Preselected
241.40	242.46	1.06	2H 34 READ ALT ENG VALUE ON DIGITAL INDIC
242.50	243.02	1.42	2H 28 PRESS ALT ENG MODE 8 SW
243.00	244.88	0.78	2M 30 MOM ALT EMG MODE LT ORANGE - ALT ENG MODE ARMED
240.00			16XL02 BERIN TURN TO AVOID MEAVY WEATHER
235.00			180082 ENTER NEW HEADING IN MCP
235.00	237.50	2.50	2H 19 ROTATE TKA SEL KNOB
235.00	236.11	1.11	2H 2G READ TKA SEL YALUE Om digital imbic
237.50	238.27	0.77	2M 18 MON TKA SEL MODE LT Green – TKA SEL MODE ENGAGED
210.00			183LO3 DESCEND THRU 11000.
210.00			090081 FLIGHT INSTRUMENT SCAN -A1
210.00	220.00	10.00	2J 62 MON PITCH ATTITUDE Indic
210.00	220.00	10.00	3L 02 MON VERTICAL SPEED INDIC
210.00	220.00	10.00	3A 10 MONITOR AIRSPEED INDIC
210.00	220.00	10.00	2K 14 MON MAP VIDEO

SINCE MISSI BEGINNING	ON START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
210.00	220.00	10.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
210.00	220.00	10.00	2K 33 MON CURVED TREND Vector symbols
240.00			180092 TUNE ATL APPROACH OM 127.28
246.00			180093 CONTACT ATL APPROACH OM 127.28
251.90	285.90	4.00	1P16YY90 MASA S15,ATL APPR, Roger.
258.00			OCEYOS C/P EXT YIS SCAN
270.00			ODEYOS C/P EXT VIS SCAN
250.00			090048 FLIGHT INSTRUMENT SCAN -A2
250.00	280.00	30.00	2J 02 MON PITCH ATTITUDE
250.00	280.00	30.00	3L 02 MON VERTICAL SPEED Indic
250.00	280.00	30.00	3A 10 MONITOR AIRSPEED INDIC
250.00	280.00	30.00	2K 14 MON MAP VIDEO
250.00	280.00	30.00	2K 48 MON STRAIGHT TREND Vector Symbol
250.00	280.00	30.00	2K 33 MON CURVED TREND Vector symbols
280.00			090048 FLIGHT INSTRUMENT SCAN -A2
280.00	\$10.00	30.00	2J 02 MON PITCH ATTITUDE INDIC
280.00	\$10.00	30.00	3L 02 MON VERTICAL SPEED INDIC
280.00	\$10.00	30.00	3A 10 MONITOR AIRSPEED INDIC
280.00	\$10.00	30.00	2K 14 MON MAP VIDEO
200.00	\$10.00	30.00	2K 48 MON STRAIGHT TRÊND Vêctor Symbol
280.00	\$10.00	30.00	2K 33 MON CURVED TREND Vector symbols
\$10.00			090048 FLIGHT INSTRUMENT 8CAN -A2
310.00	340.00	30.00	2J O2 MON PITCH ATTITUDE INDIC
\$10.00	840.00	\$0.00	SL 02 MON VERTICAL SPEED INDIC
310.00	\$40.00	\$0.00	3A 10 MONITOR AIRSPEED INDIC
\$10.00	340.00	30.00	2K 14 MON MAP VIDEO
310.00	840.00	30.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
310.00	140.00	30.00	2X 33 MON CURYED TREND VECTOR SYMBOLS
340.00			090048 FLIGHT INSTRUMENT Scan -A2
\$40.00	\$70.00	\$0.00	2J 02 MON PITCH ATTITUDE INDIC
340.00	370.00	\$0.00	SL 02 MON VERTICAL SPEED INDIC
340.00	170.00	30.00	3A 10 MONITOR AIRSPEED INDIC
340.00	370.00	30.00	2K 14 MON MAP VIDEO
340.00	\$70.00	30.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
340.00	370.00	30.00	2K 33 MON CURVED TREND YECTOR SYMBOLS
288.00			030007 ENGINE INSTRUMENT SCAN
295.00			ODEYON C/P EXT YIS SCAN
340.00			GOEVO4 C/P EXT VIS SCAN

SINCE MISS	SION START END	ACTIVITY Time	EVENT/PI Tasi	
363.00			030007	ENGINE INSTRUMENT SCAN
370.00			16BL04	DESCEND THRU \$600.
370.00			16X\$94	ALT STEP DOWN AND VECTOR TO RESUME AFTER WX AVOIDNCE
374.00	381.00	7.00	1910	BB04 MASA 515, TURN LEFT MEADING 240, DESCEND AND MAINTAIN 6000 FT
\$80.00			180081	ENTER/ARM NEW ALT IN MCP
380.00	382.47	2.47	2H	\$3 ROTATE ALT ENG KNOS
\$80.00	\$80.78	0.78	2H	81 MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED
381.40	102.40	1.06	2H	34 READ ALT ENG VALUE ON DIGITAL INDIC
382.50	383.92	1.42	2H	28 PRESS ALT ENG MODE S
383.90	184.68	0.78	2H	30 MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED
385.00			180082	ENTER NEW MEADING
385.00	287.50	2.50	2H	19 ROTATE TKA SEL KHOS
305.00	386.11	1.11	2H	20 READ THA SEL VALUE ON DIBITAL INDIC
387.50	388.27	0.77	2H	18 MON TKA BEL MODE LT GREEN - TKA BEL MODE ENGAGED
300.00			090048	FLIGHT INSTRUMENT SCAN -A2
390.00	420.00	30.00	2,	02 MON PITCH ATTITUDE
390.00	420.00	30.00	ar.	02 MON VERTICAL SPEED INDIC
390.00	420.00	30.00	9A	10 MONITOR AIRSPEED INDIC
390.00	420.00	30.00	2K	14 MOR MAP VIDEO
\$90.00	420.00	30.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
390.00	420.00	30.00	2K	48 MON CURVED TREND VECTOR SYMBOLS
420.00			090048	FLIGHT INSTRUMENT SCAN -AZ
420.00	450.00	30.00	21	02 MON PITCH ATTITUDE INDIC
420.00	450.00	30.00	\$L	02 MON VERTICAL SPEED INDIC
420.00	450.00	\$0.00	3A	10 MONITOR AIRSPEED INDIC
420.00	450.00	\$0.00	2K	14 MON MAP VIDEO
420.00	450.00	30.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
420.00	450.00	30.00	2K	SS MON CURVED TREND VECTOR SYMBOLS

SINCE MISSION BEGINNING	START END	ACTIVITY TIME	EVENT/PR TASK	
185.00			090051	FLIGHT INSTRUME" SCAN -A1
185.00	195.00	10.00	2,	02 MON PITCH TITUDE INDIC .
185.00	195.00	10.00	3 L	02 MON VERTICAL SPEED INDIC
185.00	195.00	10.00	3A	10 MONITOR AIRSPEED INDIC
185.00	195.00	10.00	2K	14 MON MAP VIDEO
185.00	195.00	10.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
185.00	195.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
195.00			180048	MON ADF/RMI-2
195.00			18XL91	YECTOR FOR DOWN WIND - OPTIONAL WX AVOIDANCE
195.00	196.60	1.60	191	BXX01 MON INFORMATION MANAGEMENT ATENSON
196.60	198.00	2.00	191	BXX02 MON INFORMATION MANAGEMENT DISPLAY [MODE-8 UPLINK PHDR] AMBER
200.40	210.40	10.00	191	GAASI MONITOR UPLINK CALL- OUT FROM COPILOT
226.00	227.60	1.60	101	BXX01 MON INFORMATION MANAGEMENT ATENSON
227.60	229.60	2.00	101	SXXG2 MON INFORMATION Management Display [Mode-8 uplink PNDG] Amber
231.40	241.40	10.00	101	BAL91 MONITOR COPILOT
245.00			16DL61	ARM NEW DL MCP ALT
245.00	245.70	0.78	211	SI MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED
245.60	246.88	1.00	2 H	34 READ ALT ENG VALUE ON DIGITAL INDIC
246.86	248.28	1.42	2 M	28 PRESS ALT ENG'MODE S SW
248.28	249.06	0.78	2 H	30 MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED
240.00			16XL02	BEGIN TURN TO AVOID HEAVY WEATHER
240.00			18DL82	ENGAGE DATA LINKED HEADING IN MCP
240.00	240.77	0.77	2H	17 MON TKA SEL MODE LT Blue – TKA SEL MODE PRESELECTED
240.80	241.91	1.11	2H	20 READ TKA SEL VALUE ON DIGITAL INDIC
241.90	243.31	1.41	211	14 PRESS TKA SEL MODE
243.30	244.07	0.77	211	18 MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED
210.00			16BL03	DESCEND THRU 11000.
210.00			690051	FLIGHT INSTRUMENT SCAN -A1

ORIGINAL PAGE IS OF POOR QUALITY

SINCE MISSI BEGINNING	ION START	ACTIVITY TIME	EVENT/PR Task		RE
210.00	220.00	10.00	2,1	02	MON PITCH ATTITUDE
210.00	220.00	10.00	ar.	02	MON VERTICAL SPEED
210.00	220.00	10.00	3A	10	MONITOR AIRSPEED
210.00	220.00	10.00	2 K	14	MON MAP VIDEO
210.00	220.00	10.00	2K	44	MON STRAIGHT TREND VECTOR SYMBOL
210.00	220.00	10.00	2K	33	MON CURVED TREND VECTOR SYMBOLS
240.00			160002		ATL APPROACH 27.25
246.00			16DL93	MON F	TOR ATL APPROACH 27.28/VHF-2L
220.00			090048	FLIG SCAN	HT HSTRUMENT -AZ
220.00	250.00	\$0.00	21	02	MON PITCH ATTITUDE
220.00	250.00	30.00	\$L	02	MON YERTICAL SPEED
220.00	250.00	\$0.00	3A	10	MONITOR AIRSPEED
220.00	250.00	\$0.00	2K	14	MON MAP VIDEO
220.00	250.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL
220.00	250.00	30.00	2K	33	MON CURVED TREND VECTOR SYMBOLS
285.00			00EV03	C/P	EXT VIS SCAN
270.00			00EA03	C/P	EXT VIS SCAN
250.00			090048		NT INSTRUMENT -A2
250.00	280.00	\$0.00	2,1	02	MON PITCH ATTITUDE
250.00	280.00	30.00	31.	02	MON VERTICAL SPEED
280.00	280.00	30.00	AE	10	MONITOR AIRSPEED
250.00	280.00	30.00	2K	14	MON MAP VIDEO
250.00	280.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL
250.00	280.00	30.00	2π	33	MON CURVED TREND VECTOR SYMBOLS
280.00			090048		HT INSTRUMENT
280.00	310.00	30.00	2,1	02	MON PITCH ATTITUDE
280.00	310.00	30.00	11.	02	MON VERTICAL SPEED
280.00	\$10.00	30.00	3A	10	MONITOR AIRSPEED
280.00	310.00	30.00	2K	14	MON MAP VIDEO
200.00	310.00	30.00	2 X	44	MON STRAIGHT TREND VECTOR SYMBOL
280.00	310.00	30.00	·2K	11	MON CURVED TREND VECTOR SYMBOLS
\$10.00			000048		HT INSTRUMENT
310.00	\$40.00	30.00	24	02	MON PITCH ATTITUDE
310.00	340.00	30.00	8 L	02	MON VERTICAL SPEED
\$10.00	\$40.00	30.00	\$ A	10	MONITOR AIRSPEED
\$10.00	340.00	\$0.00	2K	14	MON MAP VIDEO
\$10.00	140.00	30.00	2K	46	MON STRAIGHT TREND VECTOR SYMBOL

SINCE MISSIC BEGINNING	M START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
310.00	340.00	30.00	2K 33 MON CURVED TREND YECTOR SYMBOLS
340.00			090048 FLIGHT INSTRUMENT SCAN -A2
340.00	\$70.00	30.00	2J 02 MON PITCH ATTITUDE Indic
340.00	\$70.00	30.00	3L 02 MON VERTICAL SPEED INDIC
340.00	170.00	30.00	3A 10 MONITOR AIRSPEED IMDIC
	370.00	30.00	2K 14 MON MAP VIDEO
340.00 340.00	170.00	30.00	2K 48 MON STRAIGHT TREND Vector symbol
340.00	170.00	30.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
280.00	••••		030007 ENGINE INSTRUMENT SCAN
_			GOEYOS C/P EXT VIS SCAN
295.00			OCEVO4 C/P EXT VIS SCAN
340.00			080007 ENGINE INSTRUMENT
363.00			SCAN 188104 DESCEND THRU 8800.
170.00			18XL84 ALTITUDE STEP DOWN
370.00			AND VECTOR TO RESUME AFTER WX AVOIDANCE
379.00	380.60	1.60	1D16XX01 MON INFORMATION MANAGEMENT ATEMSON
380.00	\$82.60	2.00	1D16XX02 MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PHDG] AMBER
384.40	390.40	8.00	1D18AL94 MON COPILOT - TURN Left Heading 240. Descend and Main- Tain 8000 MSL.
380.00			18DL81 ARM NEW DL MCP ALT
\$80.00	\$80.78	0.78	2H 31 MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED
380.80	281.88	1.06	2M 34 READ ALT EMG VALUE ON DIGITAL INDIC
381.86	183.28	1.42	2H 28 PRESS ALT ENG MODE S SW
183.28	\$\$4.06	0.78	2H 30 MON ALT ENG MODE LT Orange – alt eng Mode armed
390.00			OPOO48 , FLIGHT INSTRUMENT SCAN -AZ
190.00	420.00	10.00	2J 02 MON PITCH ATTITUDE INDIC
390.00	420.00	30.00	3L 02 MON VERTICAL SPEED INDIC
390.00	420.00	10.00	\$A 10 MONITOR AIRSPEED INDIC
390.00	420.00	80.00	2K 14 MON MAP VIDEO
390.00	420.00	30.00	2K 46 MON STRAIGHT TREND YECTOR SYMBOL
390.00	420.00	\$0.00	2K 33 MON CURVED TREND VECTOR SYMBOLS
420.00			000048 FLIGHT INSTRUMENT SCAN -A2
			SCAN -AZ 2J 02 MON PITCH ATTITUDE
420.00	450.00	\$0.00	INDIC
420.00	450.00	30.00	31 02 MON VERTICAL SPEED INDIC
420.00	450.00	30.00	SA 10 MONITOR AIRSPEED INDIC
420.00	450.00	30.00	2K 14 MON MAP VIDEO

SINCE MISSI BEGINNING	ION START	ACTIVITY Time	EVENT/PROCEDURE Task
420.00	450.00	30.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL
420.00	450.00	30.00	2K 33 MON CURVED TREND YECTOR SYMBOLS
\$40.00	160.00	20.00	RA 10 PILOT EXTERNAL VISION SCAN
363.00			939997 ENGINE INSTRUMENT SCAN
383.00	363.44	0.44	7F 25 MON ENG NO 1 EPR IND
363.00	383.44	0.44	. 7F 30 MON ENG NO 2 EPR IND
363.44	363.88	0.44	7F 21 MON NO 1 ENG N1 IND
303.44	363.88	0.44	7F 22 MON NO 2 ENG N1 IND
363.88	364.32	0.44	7F 21 MON ENG NO 1 EXH 4AS TEMP IND
303.88	104.32	0.44	7F 42 MON ENG NO 2 EXH GAS TEMP IND
364.32	364.78	0.44	7F 23 MON NO 1 ENG M2 IND
364.32	364.76	0.44	7F 24 MON NO 2 ENG M2 IND
264.76	365.20	0.44	7F 42 MON ENG NO 1 FUEL Flow Indic
384.78	365.20	0.44	7F 34 MON ENG NO 2 FUEL FLOW INDIC
365.20	365.84	0.44	7F OD MON NO 1 ENG OIL Press indic
385.64	366.08	0.44	7F 10 MON NO 1 EMQ OIL Temp indic
365.64	366.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
366.00	160.52	0.44	7F 11 MON NO 1 ENG OIL GTY Indic
388.08	366.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
386.52	166.96	0.44	7F 12 MON NO 1 ENG VIBRA- Tion amplitude indic
386.52	366.96	0.44	7F 20 MON NO 2 EWG VIBR Amplitude indic
370.00			18BL04 DESCEND THRU 8800.

B.8 ILS APPROACH WITH WEATHER DEVIATION—ADVANCED FLIGHT DECK Nonflying Pilot

SINCE MIS BEGINNING	SION START	ACTIVITY TIME	EVENT/PROCEDURE TASK
185.00			0900\$1 FLIGHT INSTRUME™* SCAN -A1
. 85.00			160048 MON ADF/RM1-2
195.00	197.26	2.26	SE 28 MON ADF MO.1 POINTER ON ADF/RMI 2 INDIC
195.00			16XB91 VECTOR FOR DOWNWIND OPTIONAL WX AVOIDING
195.00	207.00	12.00	1P16XX91 N \$15,TURN RT HDQ270 DESCHO AND MAINTAIN 6000 FT,CONTACT ATL APPR ON 127.25.
207.00	214.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
214.00	217.00	3.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
207.00	217.00	10.00	1P18XY81 APPROACH, S1S HAS STRONG WX RADAR ECHOES, REQUEST HDQ 300.WILL ADVISE CLR.
220.00	232.00	12.00	1P16AA91 HASA 615, TURN RT. HDG 200, DESCEND AND MAINTAIN 6000 FT CONTACT ATL 127.28
232.00	239.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
232.00	239.00	7.00	1P16BB91 516.ROGER.HDR 300. MAINTAIN 5000, APPR ON 127.25
240.00			180081 ENTER/ARM NEW ALT IN MCP
240.00			18ILO2 BEGIN TURN TO AVOID HEAVY WEATHER
235.00			190092 ENTER NEW HEADING IN MCP
210.00			188LOS DESCEND THRU 11000.
210.00			090081 FLIGHT INSTRUMENT SCAM -A1
240.00			180092 TUNE ATL APPROACH Om 127.25
240.00	244.88	4.88	18 01 MON VHF-2L FREQ IND
240.00	242.90	2.90	1B 02 SET VMF-2L FREG- WHOLE NO.S
242.88	244.86	1.00	18 03 SET VMF-2L FREQ - Fractions

SINCE MISSI	ON START	ACTIVITY TIME	EVENT/PROCEDURE Task
\$EG WM NG 246.00	END	11706	160093 CONTACT ATL APPROACH ON 127.25
246.00	247.49	1.49	18 05 SET VHF-2 COMMA TFR SW TO LEFT
248.40	251.90	3.50	1A 10 ACT PUSH-TO-TALK SW
248.40	251.90	3.50	1P16XX93 ATL APPR, MASA 515 Descending to 6000.
251.90	255.90	4.00	1P18YY9G WASA \$15,ATL APPR, Roger,
255.00			ODEYOS C/P EXT YIS OCAN
286.00	270.00	18.00	8A 10 PILOT EXTERNÁL Visión scan
170.60			GOEVOS C/P EXT VIS SCAN
270.00	285.00	18.00	8A 10 PILOT EXTERNAL VISION SCAN
250.00			090048 FLIGHT INSTRUMENT Scan –A2
280.00			080048 FLIGHT INSTRUMENT SCAN -A2
\$10.00			090048 FLIGHT INSTRUMENT Scan – A2
340.00			989948 FLIGHT INSTRUMENT SCAN -A2
288.00			030007 ENGINE INSTRUMENT SCAN
288.00	288.44	0.44	7F 25 MON ENG NO 1 EPR IND
288.00	288.44	0.44	7F 30 MON ENG NO 2 EPR IND
288.44	208.88	0.44	7F 21 MON NO 1 ENG M1 IND
288.44	288.88	0.44	7F 22 MON NO 2 ENG N1 IND
288.88	289.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
288.88	289.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
289.32	289.76	0.44	7F 28 MON NO 1 ENG N2 1ND
289.32	289.76	0.44	7F 24 MON NO 2 ENG N2 IND
289.76	290.20	0.44	7F 38 MON ENG NO 1 FUEL Flow Indic
280.76	290.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
290.20	290.64	0.44	7F OF MON NO 1 EMQ OIL Press indic
290.64	281.00	0.44	7F 10 MON NO 1 ENG CIL Temp indic
200.04	201.00	0.44	7F 18 MON NO 2 ENG OIL Temp indic
291.04	201.42	0.44	7F 11 MON NO 1 ENG CIL GTY INDIC
291.08	291.62	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
291.52	291.88	0.44	7F 12 MON NO 1 ENG VISRA- Tigh amplitude indic
291.52	291.98	0.44	7F 20 MON NO 2 ENG VIER Amplitude indic
*** **			ODEVOD C/P EXT VIS SCAN
295.00	340.00	45.00	SA 12 PILOT EXTERNAL
295.00	. 44 . 44		VISION SCAN ODEYG4 C/P EXT VIS SCAN
340.00			
340.00	360.00	20.00	VISION SCAN
363.00			030007 ENGINE INSTRUMENT SCAN
363.00	163.44	0.44	7F 26 MON ENG NO 1 EPR IND
363.00	363.44	0.44	7F 30 MON ENG NO 2 EPR IND
363.44	363.88	0.44	7F 21 MON NO 1 ENG N1 1MD
363.44	363.88	0.44	7F 22 MON NO 2 ENG N1 1910

SINCE MISSIC		ACTIVITY TIME	EVENT/PROCEDURE TASK
BEGINNING 363.88	END 364.32	0.44	7F 31 MON ENG NO 1 EXM GAS Temp IND
163.88	384.32	0.44	7F 32 MON ENG NO 2 EXH GAS Temp IND
364.32	364.78	0.44	7F 28 MON NO 1 ENQ N2 IND
364.32	364.76	0.44	7F 24 MON NO 2 ENG N2 1ND
364.76	365.20	0.44	7F 33 MON END NO 1 FUEL Flow Indic
364.76	365.20	0.44	7F 34 MON ENG NO 2 FUEL Flow Indic
366.20	365.64	0.44	7F 00 MON NO 1 ENG OIL PRESS INDIC
385.64	166.08	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC
365.64	366.08	0.44	7F 18 MON NO 2 ENG OIL TEMP INDIC
366.08	366.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
366.00	366.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
366.52	366.86	0.44	7F 12 MON NO 1 ENG VIERA- Tion amplitude indic
366.52	366.86	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC
370.00			18BL04 DESCEND THRU 8800.
370.00			18X894 ALT STEP DOWN AND VECTOR TO RESUME AFTER WX AVOIDNCE
370.00	373.00	\$.00	1P1GAAG4 APPROACH, S15 IS Clear of Weather
370.00	373.00	3.00	1A 25 ACTUATE COMM 2 PUSH— TO-TALK SW
374.00	381.00	7.00	1P16BB94 MASA 515, TURM LEFT MEADING 240, DESCEND AND MAINTAIN 5000 FT
381.00	184.00	\$.00	1A 25 ACTUATE COMM 2 PUSH— TO-TALK SW
384.00	385.70	1.70	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
381.00	386.00	\$.00	1P18CC84 815, ROGER, TURN LT HDG 240, MAINTN 8000.
380.00			180081 ENTER/ARM NEW ALT IN MCP
385.00			180082 ENTER NEW HEADING IN MCP
390.00			090048 PLIGHT INSTRUMENT Scan -A2
420.00			090048 FLIGHT INSTRUMENT Scan -A2
450.00			090048 FLIGHT INSTRUMENT SCAN -A2
480.00			090048 FLIGHT INSTRUMENT SCAN -A2
510.00			090051 FLIGHT INSTRUMENT Scan -A1
390.00			GOEVOS C/P EXT VIS SCAN
390.00	430.00	40.00	8A 11 PILOT EXTERNAL VISION SCAN
430.00		•	030007 ENGINE INSTRUMENT Scan
430.00	430.44	0.44	7F 25 MON ENG NO 1 EPR IND
430.00	430.44	0.44	7F 30 MON ENQ NO 2 EPR IND
430.44	430.88	0.44	7F 21 MON NO 1 ENG NT IND
430.44	430.88	0.44	7F 22 MON NO 2 ENG N1 IND
430.88	431.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
430.88	431.32	0.44	7P 32 MON ENG NO 2 EXH GAS TEMP IND

SINCE MISSION BEGINNING	START END	ACTIVITY Time	EVENT/PROCEDURE TASK
	431.76	0.44	7F 23 MON NO 1 ENG N2 IND
	431.78	0.44	7F 24 MON NO 2 ENG N2 1ND
431.78	432.20	0.44	7F 33 MON EMG NO 1 FUEL Flow indic
431.76	432.20	0.44	7F 34 MON ENG NO 2 FUEL Flow indic
432.20	432.64	0.44	7F 09 MON NO 1 ENG OIL Press indic
482.64	433.08	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC
432.64	433.00	0.44	7F 18 MON NO 2 ENG CIL Temp indic
433.08	411.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
433.08	433.52	0.44	7F 19 MON NO 2 ENG OIL QTY INDIC
433.52	433.96	0.44	7F 12 MOM HO 1 ENG VIBRA- Tion amplitude indic
		0.44	7F 20 MON NO 2 ENG YIBR

SINCE MISS		ACTIVITY	EVENT/PROCEDURE
BEGINNING	END	. TIME	TASK
-150.00			OOEVOS C/P EXT VIS SCA" SA 11 PILOT .NAL
30.00	178.00	25.00	#A 11 P!LOT .MAL Vision Sca
185.00			000051 FLIGHT INSTRUMENT SCAN -A1
195.00			160048 MON ADF/RMI-2
185.00	197.28	2.26	SE 28 MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC
195.00			19XL91 VECTOR FOR DOWN WIND - OPTIONAL WX AVOIDANCE
195.00	196.60	1.80	1D16XX01 MON INFORMATION MANAGEMENT ATENSON
198.60	100.60	2.00	1916XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-8 UPLINK PMDG) AMBER
198.80	200.40	1.80	1X160001 LIME BELECT [ATC UPLIMES PENDING]
200.40	210.40	10.00	1016XX91 READ -TURN RT MDQ 270,0ESCAD AND MAIN- TAIN 6000 FT,MONITOR ATL APPR ON 127.25
210.40	212.20	1.00	1X160030 LIME SELECT (UMABLE)
212.20	214.00	1.80	1X180024 LINE SELECT (STRONG WX RABAR ECHOES)
214.00	218.80	1.80	1X160014 LIME SELECT (HEADING REQUEST)
215.00	217.00	1.20	1X160033 PRESS KEY [9]
217.00	218.20	1.20	1X100040 PRESS KEY [0]
218.20	219.40	1.20	12160040 PRESS KEY [0]
210.40	221.20	1.80	1X160029 LIME SELECT (REQ TEM MDQ XXX-WILL ADVISE)
228.00	227.60	1.80	1D16XXO1 MON INFORMATION MANAGEMENT ATENSON
227.60	228.60	2.00	1D16XXO2 MON INFORMATION MANAGEMENT DISPLAY (MODE-8 UPLINK PNDG] AMSER
229.60	231.40	1.00	1X180001 LIME SELECT [ATC UPLIMES PENDING]
231.40	241.40	10.00	1D16XL91 READ -TURN RT HOG 300, DESCEND AND MAINTAIN GOOD MSL MONITOR APPR 127.26
241.40	243.20	1.80	1X180030 LIME SELECT (UMABLE)
245.00			18DL81 ARM NEW DL MCP ALT
240.00			16XLO2 BEGIN TURN TO AVOID MEAVY WEATHER

ORIGINAL PAGE IS OF POOR QUALITY

SINCE MISSION BEGINNING	N START END	ACTIVITY Time	EVENT/PI	
240.00			18DL92	ENGAGE DATA LINKED HEADING IN MCP
210.00			168L03	DESCEND THRU 11000.
210.00			090051	FLIGHT INSTRUMENT SCAN -A1
240.00			160092	TUME ATL APPROACH ON 127.25
240.00	244.88	4,88	18	01 MON VHF-2L FREQ IND
240.00	242.90	2.00	18	02 SET VHF-2L FREQ- WHOLE NO.S
242.88	244.88	1.98	18	03 SET VHF-2L FREQ - FRACTIONS
248.00			16DL93	MONITOR ATL APPROACH ON 127.25/YHF-2L
246.00	247.49	1.40	18	08 SET VHF-2 COMM TER SW TO LEFT
247.50	249.50	2.00	18	04 ADJ YHF-2 YOLUME
220.00			090048	FLIGHT INSTRUMENT SCAN -A2
255.00			00EA03	C/P EXT VIS SCAN
255.00	270.00	15.00	8.8	10 PILOT EXTERNAL VISION SCAN
270.00			00EA02	C/P EXT VIS SCAN
270.00	285.00	15.00	8A	10 PILOT EXTERNAL VISION SCAN
250.00			090048	FLIGHT INSTRUMENT SCAN -A2
280.00			090048	FLIGHT INSTRUMENT SCAN -A2
310.00			090048	FLIGHT INSTRUMENT SCAN -A2
340.00			090048	FLIGHT INSTRUMENT SCAN -A2
288.00			030007	ENGINE INSTRUMENT SCAN
288.00	288.44	0.44	7#	25 MON ENG NO 1 EPR IND
288.00	288.44	0.44	7 <i>F</i>	30 MON ENG NO 2 EPR IND
288.44	288.88	0.44	7 F	21 MON NO 1 ENG N1 IND
288.44	288.88	0.44	7F	22 MON NO 2 ENG N1 IND
288.88	289.32	0.44	77	31 MON ENG NO 1 EXH GAS TEMP IND
268.88	200.32	0.44	7 F	32 MON ENG NO 2 EXH GAS TEMP 1ND
289.32	289.78	0.44	7F	23 MON NO 1 ENG N2 IND
289.32	289.76	0.44	7 F	24 MON NO 2 ENG N2 1MD
289.76	280.20	0.44	75	33 MON ENG NO 1 FUEL FLOW INDIC
289.76	290.20	0.44	7#	34 MON ENG NO 2 FUEL FLOW INDIC
290.20	290.64	0.44	75	OS MON NO 1 ENG OIL PRESS INDIC
290.64	291.08	0.44	75	10 MON NO 1 ENG OIL TEMP INDIC
290.64	291.08	0.44	78	18 MON NO 2 ENG OIL TEMP INDIC
291.08	291.52	0.44	7F	11 MON NO 1 ENG OIL GTY
201.00	291.52	0.44	7F	18 MON NO 2 ENG OIL QTY INDIC
291.52	201.96	0.44	76	12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
201.52	201.96	0.44	7F	20 MON NO 2 ENG VIBR AMPLITUDE INDIC
295.00			00EV09	C/P EXT VIS SCAN
295.00	340.00	46.00	8A	12 PILOT EXTERNAL VISION SCAN

SINCE MISSIO	M START END	ACTIVITY Time	EVENT/PROCEDURE Task
340.00	ENU		ODEYO4 C/P EXT YIS SCAN
340.00	360.00	20.00	SA 10 PILOT EXTERNAL Vision Scan
363.00			030007 ENGINE INSTRUMENT Scan
383.00	363.44	0.44	7F 25 MON ENQ NO 1 EPR IND
363.00	363.44	0.44	7F 30 MON ENG NO 2 EPR IND
363.44	161.88	0.44	7F 21 MON NO 1 ENG N1 IND
383.44	163.88	0.44	7F 22 MON NO 2 ENG M1 IND
363.88	164.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
363.88	364.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
384.32	364.70	0.44	7F 28 MON NO 1 ENG N2 IND
364.32	364.76	0.44	7F 24 MON NO 2 ENG N2 IND
364.76	365.20	0.44	7F 33 MON ENG NO 1 FUEL Flow Indic
364.78	365.20	0.44	7F 34 MONEME NO 2 FUEL Flow Indic
365.20	365.64	0.44	7F 09 MON MO 1 ENG OIL Press indic
365.64	366.08	0.44	7F 10 MON NO 1 ENG OIL Temp Indic
305.64	366.08	0.44	7F 18 MON NO 2 EMG OIL Temp imbic
366.08	100.52	0.44	7F 11 MON NO 1 ENG OIL GTY INDIC
388.08	366.52	0.44	7F 19 MON NO 2 ENG OIL GTY INDIC
366.52	\$88.98	0.44	7F 12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
366.52	366.96	0.44	7F 20 MON NO 2 ENG VIBR AMPLITUDE INDIC
370.00			168L04 DESCEND THRU \$800.
370.00			16XL94 ALTITUDE STEP DOWN AND VECTOR TO RESUME AFTER WX AVOIDANCE
370.00	371.80	1.80	1X180002 LINE SELECT (REQUEST FOR CLEARANCE)
371.80	373.60	1.80	1X180020 LINE SELECT (RESUME ON-COURSE)
379.00 ·	380.00	1.60	1D18ZXO1 MON INFORMATION MANAGEMENT ATENSON
380.80	382.80	2.00	1D18XX02 MON IMFORMATION MANAGEMENT D18PLAY (MODE-S UPLINK PMDQ) AMBER
382.60	384.40	1.80	1X180001 LIME SELECT (ATC UPLIMES PENDING)
384.40	\$90.40	6.00	1016XL94 READ - TURN LEFT HEADING 240, DESCEND WAINTAIN 6000 MSL.
390.40	102.20	1.80	1X100030 LIME SELECT [UMABLE]
380.00			18DL81 ARM MEW DL MCP ALT
390.00			990948 FLIGHT IMSTRUMENT SCAM -A2
420.00			090048 FLIGHT INSTRUMENT SCAN -A2
450.00			090049 FLIGHT INSTRUMENT SCAN -A2
480.00			090048 FLIGHT INSTRUMENT SCAN -A2
\$10.00			090051 FLIGHT INSTRUMENT Scan — A1

SINCE MIS BEGINNING	SION START END	ACTIVITY Time	EVENT/PROCEDURE Task
390.00			GOEVOS C/P EXT VIS SCAN
390.00	430.00	40.00	SA 11 PILOT EXTERNAL Vision Scan
430.00			030007 ENGINE IMSTRUMENT Scan
430.00	430.44	0.44	7F 28 MON ENG NO 1 EPR IND
430.00	430.44	0.44	7F 30 MON ENG NO 2 EPR IND
430.44	430.88	0.44	7F 21 MON NO 1 ENG N1 IND
430.44	430.88	0.44	7F 22 MON NO 2 ENG N1 IND
430.88	431.32	0.44	7F 31 MON ENG NO 1 EXH GAS TEMP IND
430.88	431.32	0.44	7F 32 MON ENG NO 2 EXH GAS TEMP IND
431.32	431.76	0.44	7F 28 MON NO 1 ENG N2 IND
	431.70	0.44	7F 24 MON NO 2 ENG N2 IND
431.76	432.20	0.44	7F 3S MON ENG NO 1 FUEL FLOW INDIC
431.76	432.20	0.44	7F 34 MON ENG NO 2 FUEL Flow INDIC
432.20	432.64	0.44	7F OR MON NO 1 ENG OIL Press indic
432.64	433.00	0.44	7F 10 MON NO 1 ENG OIL TEMP INDIC
432.64	433.08	0.44	7F 18 MON NO 2 ENG OIL Temp indic
433.00	433.52	0.44	7F 11 MON NO 1 ENG OIL GTY Indic
433.08	433.52	0.44	7F 19 MON NO 2 ENG OIL GTY INDIC
433.52	433.96	0.44	7F 12 MON NO 1 ENG VIBRA- TION AMPLITUDE INDIC
432 57	433.96	0.44	7F 20 MON NO 2 ENG YIBR

B.9 ILS MISSED APPROACH WITH REROUTE—CONVENTIONAL FLIGHT DECK Flying Pilot

SINCE MIS BEGINNING	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
15.00			180062 LANDING CHECKL
447.00	847.60	0.60	1P 10 MONITOR C
847.60	848.00	0.40	1P 14 MONITOR CALL-OUT
850.00	850.70	0.70	1P 10 MONITOR CALL-OUT
051.00	852.30	1.30	1P180079 CALL OUT -{ARMED GREEN LIGHT]
\$54.50	855.20	0.70	1P 10 MONITOR CALL-OUT
855.20	858.20	1.00	1P 10 MONITOR CALL-OUT
858.20	858.80	0.40	19 14 MONITOR CALL-OUT
858.80	859.70	1.10	1P 12 MONITOR CALL-OUT
850.00			AMENA! PILOT ETT YIE SCALL
850.00	855.00	5.00	8A 10 PILOT EXTERNAL Vision Scan
865.00			16FB17 WINDSHEAR WARNING
865.00	875.00	10.00	1P16FB27 N 515,DC-9 3 MI AHD REPTS ABRUPT WINDSHR AT 1500 FT ON FINAL 00L,MAX THRST REQ-D
880.00			16FB04 INITIATE GO-AROUND PY PILOT
880.41	883.71	3.30	1P10FB03 CALL-OUT (GOING Around now, set flap 15, gear up)
880.41	802.85	2.44	4B 06 ADVANCE THRUST LYRS To takeoff thrust
882.00			18FBOS COPILOT GOAROUND ACTIVITIES
885.40	886.10	0.70	1P 10 MONITOR CALL-OUT
883.15	893.45	0.30	1P 18 MONITOR REPORT
897.80	899.80	2.00	1P 02 MONITOR CALL-OUT
862.00			16FB16 MISSED APPROACH AND Holding Clearance
882.00	885.50	3.80	1918FB22 RADIO COMM-ATL TWR, 515 IS Executing a missed Approach
886.50	890.90	5.40	1P19FB09 RADIO-COMM (NASA 51 CLIME RUMWAY HEADING TO 3000, SAY YOUR INTENTIONS)
890.00	898.90	8.00	1P10FB23 \$15,ROQER.RW HDQ TO 3000.REGST TO HOLD FOR 15 MINS TO ASSESS THE WX.
909.00	919.00	10.00	1P10FB24 NA S1S.CLRD TO MACE INT. TURN LT HDG 060. INTCPT/PROCEED VIA AHN RADIAL 322.CLIMB

SINCE MISSI		ACTIVITY Time	EVENT/PROCED TASK	URE
BEGINNING 819.00	END 929.00	10.00	1P18FB25	AND MAINTAIN FL 180. HOLD N.E. OF MACEY AS PUBLISHED, EFC AT XXXX Z.
\$28.00	943.00	14.00	1918FB28	S,ROG,CLRD TO MACEY 060 TO AHN R-322.MHT FL 180,HOLD N.E. OF MACEY AS PUBLSHD,EFC
883.00			140003 ALT	TUDE CHANGE PROC
**3.00	893.00	10.00	4A 29	ACT FLT CONTROL TO CHANGE ALT
**3.00	893.00	10.00	1L 02	MON VERTICAL SPEED
883.00	883.77	0.77	3H 02	MON CORR BARO ALT
863.00	893.00	10.00	3R 10	MON PITCH ATTITUDE
883.00	885.82	2.82	48 03	ACTUATE BOTH THROTTLES
883.00	885.37	2.37	3F 01	MON MACH NO INDIC
893.00			140003 ALT	ITUDE CHANGE PROC
893.00	903.00	10.00	4A 29	ACT FLT CONTROL TO CHANGE ALT
693 .00	003.00	10.00	3L 02	
893.00	893.77	0.77	3H 03	MON CORR BARO ALT
893.00	903.00	10.00	3R 10	MON PITCH ATTITUDE
893.00	895.82	2.62	48 0	ACTUATE BOTH THROTTLES
893.00	895.37	2.37	3F 0	MON MACH NO INDIC
903.00			140003 AL	TTUDE CHANGE PROC
903.00	913.00	10.00	4A 21	ACT FLT CONTROL TO CHANGE ALT
903.00	913.00	10.00	\$L 0	
903.00	903.77	0.77	3H 01	MON CORR BARG ALT
903.00	913.00	10.00	3R 19	MON PITCH ATTITUDE
903.00	905.82	2.82	48 0	ACTUATE BOTH THROTTLES
903.00	905.37	2.37	3F 0	MON MACH NO INDIC
913.00			140003 AL	TITUDE CHANGE PROC
913.00	923.00	10.00	4A 2	ACT FLT CONTROL TO CHANGE ALT
913.00	923.00	10.00	8L 0	MON VERTICAL SPEED
913.00	013.77	0.77	SH 0	MON CORR BARO ALT
9 13.00	923.00	10.00	#R 1	MON PITCH ATTITUDE
913.00	915.82	2.82	48 0	ACTUATE BOTH THROTTLES
913.00	915.37	2.37	\$F 0	MON MACH NO INDIC
923.00			140003 AL	TITUDE CHANGE PROC
923.00	933.00	10.00	4A 2	ACT FLT CONTROL TO CHANGE ALT
923.00	933.00	10.00	\$L 0	MON VERTICAL SPEED
923.00	923.77	0.77	SH 0	MON CORR BARG ALT
923.00	933.00	10.00	3R 1	MON PITCH ATTITUDE
923.00	925.82	2.82	48 0	ACTUATE BOTH THROTTLES
923.00	925.37	2.37	3F 0	MON MACH NO INDIC

SINCE MIS	SION START End	ACTIVITY Time	EVENT/PI Tasi		RE
902.00			19FB07		GOAROUND UNICATIONS
902.00	905.50	4.50	1P10	8F810	CALL-OUT (SET FLAPS S REPORT 3000 REPORT 170 KNOTS)
902.00			18FB08	CP F	LAP SET AND OUTS
907.00	907.70	0.70	1P	07	MONITOR REPORT
918.89	919.59	0.70	1P	07	MONITOR REPORT
912.89	913.59	0.70	1910	0058	CALL OUT -[FLAPS 1]
919.50	920.20	0.70	19	07	MONITOR REPORT
123.00	923.70	0.70	1910	3FB21	CALL OUT [FLAPS UP]
928.50	929.20	0.70	12	07	MONITOR REPORT

SINCE MISS BEGINNING	ION START	ACTIVITY TIME	EVENT/PROCEDURE Task
18.00		•	160062 LANDING CHECKL'
447.00	847.80	0.50	1P 10 MONITOR CmOUT
847.60	848.00	0.40	1P 14 MONITOR CALL-OUT
850.00	850.70	0.70	1P 10 MONITOR CALL-OUT
851.00	852.30	1.30	1P100079 CALL OUT -[ARMED - Green Light]
854.50	855.20	0.70	1P 10 MONITOR CALL-OUT
855.20	856.20	1.00	1P 10 MONITOR CALL-OUT
858.20	858.60	0.40	19 14 MONITOR CALL-OUT
858.60	859.70	1.10	1P 12 MONITOR CALL-OUT
850.00			ARPHRA PIAM PAR ATTI
850.00	456.00	5,00	SA 10 PILOT EXTERNAL Vision Scan
885.00			10DL02 WINDSHEAR WARNING (FROM DC-9 AMEAD)
\$65,00	866.60	1.60	1016XXO1 MON INFORMATION Management Master Aural
\$66.60	868.80	2.00	1D10XX09 MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDG) GREEN REVERSE VIDEO
870.40	878.40	●.00	1D16XY62 MONITOR COPILOT
EBO.00			16FB04 INITIATE QO-AROUND By Pilot
880.41	883.71	3.30	1P18FB03 CALL-OUT (GO!NG AROUND NOW, SET FLAP 15, GEAR UP)
880.41	882.85	2.44	48 06 ADVANCE THRUST LYRS TO TAKEOFF THRUST
882.00			18FB05 COPILOT QOAROUND ACTIVITIES
885.40	886.10	0.70	1P 10 MONITOR CALL-OUT
893.16	893.45	0.30	1P 18 MONITOR REPORT
897.80	899.80	2.00	1P 02 MONITOR CALL-OUT
8\$2.00			15YLO1 MISSED APPROACH CALL AND REQUEST FOR Holding
897.00	898.60	1.90	1016XX01 MON INFORMATION Management Master Aural
888.50	900.60	2.00	1D16XXO2 MON INFORMATION Management display (Mode-8 uplink Phdg] Green
928.40	938.40	10.00	1918AL01 MON COPILOT
938.40	948.40	10.00	1D18AL02 MON COPILOT
883',00			140003 ALTITUDE CHANGE PROC
**3.00	893.00	10.00	4A 29 ACT FLT CONTROL TO
883.00	893.00	10.00	3L 02 MON VERTICAL SPEED Indic
883.00	883.77	0.77	3H 02 MON CORR BARO ALT Indic
883.00	893.00	10.00	3R 10 MON PITCH ATTITUDE Indic on FD1
883.00	885.82	2.02	49 03 ACTUATE BOTH Throttles
883.00	885.37	2.37	3F 01 MON MACH NO INDIC
893.00			140003 ALTITUDE CHANGE PROC
893.00	903.00	10.00	4A 29 ACT FLT CONTROL TO CHANGE ALT
893.00	903.00	10.00	AL OF MON VERTICAL SPEED INDIC

ORIGINAL PAGE IS OF POOR QUALITY,

SINCE MISSI BEGINNING	ON START	ACTIVITY TIME	OF FOOR QUALITY	EVENT/PI		RE
893.00	\$93.77	0.77		3H	02	MON CORR BARO ALT
**3.00	903.00	10.00		38	10	MON PITCH ATTITUDE
883 .00	695.82	2.02		48	03	ACTUATE BOTH Throttles
893.00	895.37	2.37		3F	01	MON MACH NO INDIC
903.00				140003	ALTI	TUDE CHANGE PROC
903.00	913.00	10.00		44	29	ACT FLT CONTROL TO CHANGE ALT
903.00	913.00	10.00		3L	02	MON VERTICAL SPEED
903.00	903.77	0.77		3H	02	MON CORR BARO ALT
903.00	913.00	10.00		38	10	MON PITCH ATTITUDE
903.00	905.82	2.82		48	03	ACTUATE BOTH THROTTLES
903.00	905.37	2.37		36	01	MON MACH NO INDIC
913.00				140003	ALTI	TUDE CHANGE PROC
913.00	923.00	10.00		44	29	ACT FLT CONTROL TO CHANGE ALT
913.00	923.00	10.00		3L	02	MON VERTICAL SPEED
913.00	913.77	0.77		311	02	MON CORR BARO ALT
113.00	923.00	10.00		3.8	10	MON PITCH ATTITUDE
813.00	918.82	2.02		40	03	ACTUATE BOTH Throttles
913.00	015.37	2.37		3 F	01	MON MACH NO INDIC
923.00				140003	ALTI	TUDE CHANGE PROC
923.00	933.00	10.00		44	20	ACT FLT CONTROL TO CHANGE ALT
923.00	933.00	10.00		\$L	02	MON VERTICAL SPEED
923.00	023.77	0.77		3H	02	MON CORR BARO ALT
923.00	933.00	10.00		38	10	MON PITCH ATTITUDE INDIC ON FDI
923.00	025.02	2.82		48	03	ACTUATE BOTH Throttles
923.00	925.37	2.37		35	01	MON MACH NO INDIC
.00				16FB07		GOAROUND UNICATIONS
00.00	903.50	4.80		1P1	6FB10	CALL-OUT (SET FLAPS S REPORT 3000 REPORT 170 KMOTS)
899.00				16F306	CP F	LAP SET AND OUTS
804.00	904.70	0.70		17	07	MONITOR REPORT
018.80	916.59	0.70		17	07	MONITOR REPORT
909.89	910.59	0.70		191	60058	CALL OUT -[FLAPS 13
918.50	917.20	0.70		17	07	MONITOR REPORT
920.00	920.70	0.70		171	61825	CALL UVI LPLAPS UP:
928.50	920.20	0.70		12	07	MONITOR REPORT

B.10 ILS MISSED APPROACH WITH REROUTE—CONVENTIONAL FLIGHT DECK Nonflying Pilot

PRECEDING PROF SLANK NOT MIN'TO

SINCE MIS	SION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
45.00			160082 LANDING CHECKL
445.00	848.00	1.00	#B090001 READ MEXT / JEM ON CHECKLIST ON CONTROL COLUMN PLACARD
847.00	\$47.60	0.80	1P160078 CALL OUT -{RECALL]
847.80	848.00	0.40	1P160077 CALL OUT -[CHECKED]
848.00	849.00	1.00	88090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
850.00	850.70	0.70	1P180078 CALL OUT -[SPEED Brakes]
851.00	852.30	1.30	1P 02 MONITOR CALL-OUT
852.50	883.50	1.00	BBOBOOO! READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
854.50	855.20	0.70	1P180080 CALL OUT -{LANDING GEAR]
888.20	888.20	1.00	1P180081 CALL OUT -(DOWN. Three Green)
856.20	857.20	1.00	BBO90001 READ MEXT ITEM ON CONTROL COLUMN PLACARD
858.20	858.60	0.40	1P180082 CALL OUT -[FLAP8]
858.60	889.70	1.10	1P180083 CALL OUT -(FIFTEEN GREEN LIGHT)
861.10	862.20	1.10	1P100004 CALL OUT -[CHECKLIST COMPLETE]
#81.10	862.20	1.10	19 12 MONITOR CALL-OUT
850.00			ODEVZ1 PILOT EXT VIS SCAN
865.00			18FB17 WINDSHEAR WARNING
865.00	075.00	10.00	1P16FB27 N S15.DC-0 3 MI AHD REPTS ABRUPT WINDSHR AT 1500 FT ON FINAL OSL.MAX THRST REQ-D
875.00	877.00	2.00	1P16FB28 \$15, ROGER WINDSHEAR
880.00			18FB04 INITIATE GO-AROUND BY PILOT
880.41	863.61	3.20	1P 15 MONITOR CALL-OUT
882.00		•	16FBGS COPILOT GOARGUND ACTIVITIES
882.00	802.77	0.77	SH 02 MON CORR BARO ALT Indic
882.00	882.78	0.76	7F 27 MON ENG NO 1 EPR BUG
882.00	082.78	0.76	7F 29 MON ENG NO 2 EPR BUG
882.00	892.00	10.00	SA 10 MONITOR AIRSPEED INDIC
882.00	882.20	0.20	7G 40 MOM MASTER CAUTION AND OVHD ANNUM LTS ON
882.40	886.42	2.02	4E 18 MONITOR FLAP POSITION INDICATOR
685.40	886.40	1.00	1P10FB04 CALL-OUT (FLAPS 15)
887.40	800.40	3.06	4D 01 SET LNDG BEAR LVR TO UP POSITION
887.40	887.94	0.54	4D 07 MONITOR MOSE GEAR UNLOCKED LT ON
887.40	887.94	0.54	4D 11 MON LEFT/RT BEAR UNLOCKED LT ON
800.46	893.19	2.73	4B 07 MAKE MINOR THRUST ADJUSTMENT
803.15	894.55	1.40	1P18FB05 CALL-OUT (BUG + 15)
897.80	898.34	0.54	4D OS MON HOSE GEAR Unlocked Lt off
897.80	\$98.34	0.54	4D 12 MON LEFT/RT GEAR UNLOCKED LT OFF

SINCE MISSION	TRATE D	ACTIVITY Time	EVENT/PROCEDURE TASK
SEGINNING 897.80	899.80	2.00	1P16FB06 CALL-OUT (QEAR UP. OFFI
882.00			18FB18 MISSED APPROACH AND HOLDING CLEARANCE
885.50	890.90	5.40	1P16FB08 RADIO-COMM (NASA 518 CLIMB RUWAY HEADING TO 3000 SAY YOUR INTENTIONS)
909.00	919.00	10.00	1P1GFB24 NA 515,CLRD TO MACEY INT.TUM LT HDG 050, INTCPT/PROCEED VIA ANN RADIAL 322.CLIMB
919.00	929.00	10.00	1P18FB25 AND MAINTAIN FL 180. HOLD N.E. OF MACEY AS PUBLISHED, EFC AT XXXX Z.
922.00	\$28.00	7.00	1P16FB30 COPILOT WRITES DOWN CLEARANCE TO MACEY
183.00			140003 ALTITUDE CHANGE PROC
193.00			140003 ALTITUDE CHANGE PROC
******			140003 ALTITUDE CHANGE PROC
903.00			140003 ALTITUDE CHANGE PROC
913.00			140003 ALTITUDE CHANGE PROC
923.00 902.00			18FB07 P/CP GOAROUND COMMUNICATIONS
		4.50	1P 18 MONITOR CALL OUT
902.00 902.00	908.50		18F808 CP FLAP SET AND Callouts
902.00	904.69	2.69	4E 08 SET FLAP CONT LEVER To Flaps 5
904.69	906.92	2.23	4E 15 MONITOR FLAP Position indicator
908.92	907.72	0.80	1P16FB11 CALL-OUT (FLAPS \$)
907.08	909.81	2.73	48 O7 MAKE MINOR THRUST Adjustment
909.81	911.83	2.02	7F 2S MON ENG NO 1 EPR IND
909.81	911.83	2.02	7F 30 MON ENG NO 2 EPR IND
911.89	918.89	7.00	SH OS MON ALTIMETER
919.89	919.69	0.80	1P16FB12 CALL-OUT (3000)
912.89	813.59	0.70	1P 07 MONITOR REPORT
914.00	916.69	2.69	4E 07 SET FLAP CONT LEVER TO FLAPS 1
917.00	919.23	2.23	4E 15 MONITOR FLAP Position indicator
919.50	920.20	0.70	1P160058 CALL OUT -[FLAPS 1]
920.50	922.52	2.02	7F 25 MON ENG NO 1 EPR IND
920.50	922.52	2.02	7F 30 MON ENG NO 2 EPR IND
923.00	923.70	0.70	1P 07 MONITOR REPORT
	925.96	1.98	4E 00 SET FLAP CONT LEVER
924.00	929.30	2,23	TO FLAPS 0 4E 15 MONITOR FLAP
\$26.00	747.4	2.24	POSITION INDICATOR
928.50	929.20	0.70	1P18FB29 CALL OUT (FLAPS UP)

SINCE MISSI BEGINNING	ION START	ACTIVITY Time	EVENT/PROCEDURE TASK
45.00			180062 LANDING CHECKL
645.00	848.00	1.00	BB090001 READ MEXTEM ON CHECKLIST ON CONTROL COLUMN PLACARD
847.00	\$47.60	0.60	1P160076 CALL OUT -(RECALL)
847.60	848.00	0.40	1P180077 CALL OUT -[CHECKED]
848.00	849.00	1.00	88090001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
850.00	850.70	0.70	1P180078 CALL OUT -[SPEED Brakes]
851.00	\$52.30	1.30	1P 02 MONITOR CALL-OUT
852.50	853.50	1.00	88090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACATO
854.50	855.20	0.70	1P180080 CALL OUT -[LANDING GEAR]
855.20	856.20	1.00	1P180081 CALL OUT -[DOWN, Three Green]
856.20	857.20	1.00	88090001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
858.20	858.80	0.40	1P180082 CALL OUT -(FLAPS)
858.60	859.70	1.10	19160083 CALL OUT - (FIFTEEN GREEN LIGHT)
861.10	882.20	1.10	1P180084 CALL OUT -[CHECKLIST COMPLETE]
861.10	862.20	1.10	1P 12 MONITOR CALL-OUT
650.00			00EY21 PILOT EXT VIS BCAN
865.00			16DL62 WINDSHEAR WARNING (From DC-9 AHEAD)
685.00	856.60	1.60	1016XXO1 MON INFORMATION Management Master Aural
868.80	868.80	2.00	1D1SXXOS MON INFORMATION MANAGEMENT DISPLAY (MODE-S UPLINK PNDQ) GREEN REVERSE VIDEO
869.60	870.40	1.80	1X180001 LINE SELECT [ATC Uplinks pending]

SINCE MISSIC BEGINNING	N START	ACTIVITY Time	EVENT/PROCEDURE TASK
870.40	878.40	8,00	1D16XX62 READ-XXXX I.DC-9 Repts abrupt windshr at 1500 ft on final OSL,max Thrust Reg-d
878.40	880.20	1.80	1X100045 LIME SELECT (ACKNOWLEDGE)
880.00			18FB04 INITIATE GO-AROUND By Pilot
880.41	883.61	3.20	1P 1S MONITOR CALL-OUT
882.00			18FBOS COPILOT GOAROUND ACTIVITIES
882.00	882.77	0.77	3M 02 MON CORR BARO ALT IMDIC
882.00	882.76	0.76	7F 27 MON ENG NO 1 EPR BUG
882.00	\$82.76	0.76	7F 28 MON ENG NO 2 EPR BUG
882.00	892.00	10.00	3A 10 MONITOR AIRSPEED Indic
862.00	882.20	0.20	7G 40 MON MASTER CAUTION AND OWND ANNUN LTS ON
883.40	888.42	2.02	4E 15 MONITOR FLAP Position indicator
885.40	886.40	1.00	1P18FB04 CALL-OUT (FLAPS 15)
887.40	890.48	3.00	4D O1 SET LNDG GEAR LYR To up position
887.40	887.84	0.54	4D 67 MONITOR HOSE GEAR UNLOCKED LT OM
887.40	887.94	0.54	4D 11 MON LEFT/RT GEAR UNLOCKED LT ON
890.48	893.19	2.73	48 07 MAKE MINOR THRUST Adjustment
893.15	E94.55	1.40	1P18FB05 CALL-OUT (BUG + 15)
897.80	898.34	0.54	4D OR MON NOSE GEAR UNLOCKED LT OFF
897.80	898.34	0.54	4D 12 MON LEFT/RT BEAR UNLOCKED LT OFF
897.80	899.80	2.00	1P18FB08 CALL-OUT (GEAR UP, OFF)
882.00			18YL01 MISSED APPROACH CALL AND REQUEST FOR HOLDING
882.00	883.80	1.80	1210002 LINE SELECT (REQUEST FOR CLEARANCE)
883.80	885.60	1.80	1X180018 LIME SELECT (MAKING WISSED APPROACH)
885.80	886.80	1.20	1X160031 PRESS KEY [1]
	888.00	1.20	12100044 PRESS [ENT]
888.00	689.20	1.20	1X1000\$ PRESS KEY [6]
889.20	# 90.40	1.20	1X180044 PRESS [ENT] 1X180023 LINE SELECT [ENTER
890.40	692.20	1.80	HOLDING FOR XX MIN)
897.00	898.60	1.60	1D16XX01 MON INFORMATION MANAGEMENT MASTER AURAL
191.60	900.80	2.00	1018XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-8 UPLINK PHDG) GREEN
926.60	928.40	1.80	1X180001 LIME SELECT [ATC UPLIMES PENDIME]
928.40	938.40	10.00	1D18XL01 READ-CLRD TO MACEY INT.TURN LT HOG 060, INTCPT AND PROCEED VIA ANN R-822.CLIMB
938.40	948.40	10.00	1018XLO2 AND MAINTAIN FL180, NOLD HE OF MACEY AS PUBLSHD, EFG XXXX Z.
948.40	950.20	1.80	1X100041 LIME BELECT [Wilco]
950.20	952.00	1.80	1X100047 LIME SELECT [PRINT MESSAGE]

SINCE MISSICE BEGINNING	N START END	ACTIVITY Time	EVENT/PF TASK	ROCEDURE
883.00			140003	ALTITUDE CHANGE PROC
893.00			140003	ALTITUDE CHANGE PROC
903.00			140003	ALTITUDE CHANGE PROC
913.00			140003	ALTITUDE CHANGE PROC
923.00			140003	ALTITUDE CHANGE PROC
899.00			16FB07	P/CP GOAROUND COMMUNICATIONS
899.00	903.50	4.50	18	18 MONITOR CALL OUT
***.00			16FB08	CP FLAP SET AND CALLOUTS
899.00	901.89	2.69	4E	09 SET FLAP CONT LEVER TO FLAPS S
901.89	903.92	2.23	4E	15 MONITOR FLAP . POSITION INDICATOR
903.92	904.72	0.80	1710	FFB11 CALL-OUT (FLAPS 8)
904.08	908.81	2.73	48	07 MAKE MINOR THRUST ADJUSTMENT
906.81	908.83	2.02	7 F	25 MON ENG NO 1 EPR IND
908.81	908.83	2.02	7 F	30 MON ENG NO 2 EPR IND
908.89	015.00	7.00	3 H	OS MON ALTIMETER
915.89	916.89	0.80	1710	F812 CALL-OUT (3000)
909.89	910.59	0.70	1P	07 MONITOR REPORT
911.00	912.89	2.69	4E	07 SET FLAP CONT LEVER TO FLAPS !
914.00	018.23	2.23	4E	15 MONITOR FLAP POSITION INDICATOR
916.50	917.20	0.70	1910	10058 CALL OUT -[FLAPS 1]
917.50	919.52	2.02	7#	25 MON ENG NO 1 EPR IND
917.60	910.52	2.02	7 F	30 MON ENG NO 2 EPR IND
920.00	920.70	0.70	19	07 MONITOR REPORT
921.00	922.98	1.90	4E	06 SET FLAP CONT LEVER TO FLAPS 0
923.00	925.23	2.23	4E	15 MONITOR FLAP POSITION INDICATOR
925.50	926.20	0.70	1910	FB29 CALL OUT [FLAPS UP]

B.11 ILS MISSED APPROACH WITH REROUTE-ADVANCED FLIGHT DECK Flying Pilot

SINCE MIS	SION START	ACTIVITY Time	EVENT/ TA	PROCEDURE SK
45.00			160062	LANDING CHECKL
447.00	847.80	0.80	1P	16 MONITOR CALL-OUT
847.60	\$48.00	0.40	1P	14 MONITOR CALL-OUT
850.00	850.70	0.70	19	10 MONITOR CALL-OUT
#51.00	052.30	1.30	1 P 1	60079 CALL OUT -[ARMED - GREEN LIGHT]
854.50	865.20	0.70	19	10 MONITOR CALL-OUT
055.20	656.20	1.00	17	10 MONITOR CALL-OUT
858.20	858.60	0.40	19	14 MONITOR CALL-OUT
858.80	859.70	1.10	1 P	12 MONITOR CALL-OUT
850.00			180071	FLIGHT INSTRUMENT SCAN -A2, PILOT
850.00		30.00	2K	14 MON MAP VIDEO
880.00	#80.00	30.00	2K	46 MON STRAIGHT TREND VECTOR SYMBOL
850.00	880.00	30.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
850.00	880.00	30.00	2,1	13 MON ILS BOX INDIC
850.00	880.00	30.00	2,1	04 MON FLT PATH ACCEL INDIC
850.00	880.00	30.00	2,	01 MON ROLL ATT INDIC
850.00	880.00	30.00	2,3	19 MON PITCH REF-INDIC
850.00	880.00	30.00	3A	10 MONITOR AIRSPEED INDIC
865.00			00EV02	C/P EXT VIS SCAN
865.00			16FB17	WINDSHEAR WARNING
865.00	875.00	10.00	1P1	6FB27 M 515,DC-9 3 MI AHD REPTS ABRUPT WINDSHR AT 1500 FT OM FINAL 08L,MAX THRST REQ-D
880.00			18YL01	INITIATE GO-AROUND
880.00	883.30	3.30	191	SFB03 CALL-OUT (GOING AROUND NOW, SET FLAP 15, GEAR UP)
880.00	882.50	2.50	48	OP PRESS THROTTLE GO- AROUND SWITCHES
882.00			16F805	COPILOT GOAROUND ACTIVITIES
885.40	888.10	0.70	19	10 MONITOR CALL-OUT
893.15	893.45	0.30	19	18 MONITOR REPORT

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SINCE MISSIC BEGINNING	ON START	ACTIVITY Time	EVENT/PROCEDURE TASK
897.80	899.80	2.00	1P 02 MONITOR CALL-OUT
882.00	*****		18FB16 MISSED APPROACH AND HOLDING CLEARANCE
882.00	885.50	3.50	1P18FB22 RADIO COMM-ATL TWR, 515 IS Executing a missed Approach
885.50	880.90	\$.40	1P16FB08 RADIO-COMM (NASA 515 CLIMB RUHWAY HEADING TO 3000 , SAY YOUR INTENTIONS)
890.90	\$98.90	8.00	1P18FB23 S1S, ROGER.RW HDQ TO 3000.REGST TO HOLD FOR 1S MINS TO ASSESS THE WX.
909.00	919.00	10.00	1P16FB24 MA 515,CLRD TO MACEY IMT,TURM LT MD0 060. IMTCPT/PROCEED VIA ANN RADIAL 322.CLIMB
919.00	929.00	10.00	1P16FB25 AND MAINTAIN FL 180. Hold N.E. OF Macet As published, efc at XXXX Z.
929.00	943.00	14.00	1P18FB26 S,ROG,CLRD TO MACEY 080 TO ANN R-322.MY FL 180,HOLD N.E. OF MACEY AS PUBLSHD,EFC
883.00			140003 ALTITUDE CHANGE PROC
183.00	893.00	10.00	4A 29 ACT FLT CONTROL TO CHANGE ALT
883.00	893.00	10.00	3L 02 MON VERTICAL SPEED Indic
883.00	883.77	0.77	3H O2 MON CORR BARO ALT Indic
883.00	883.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
883.00	885.82	2.82	4B O3 ACTUATE BOTH Throttles
	885.37	2.37	3F 01 MON MACH NO INDIC
883.00 893.00	****		140003 ALTITUDE CHANGE PROC
893.00	903.00	10.00	4A 28 ACT FLT CONTROL TO CHANGE ALT
883.00	903.00	10.00	3L 02 MON VERTICAL SPEED INDIC
893.00	893.77	0.77	SH O2 MON CORR SARO ALT Indic
893.00	903.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
893.00	895.82	2.82	4B 03 ACTUATE BOTM Throttles
893 .00	885.37	2.37	3F OF MON MACH NO INDIC
802.00	••••		18FB07 P/CP GOAROUND COMMUNICATIONS
902.00	906.50	4.50	1P16FB10 CALL-OUT (SET FLAPS S REPORT 3000 REPORT 170 KMOTS)
902.00			16FB08 CP FLAP SET AND CALLOUTS
	907.70	0.70	1P 07 MONITOR REPORT
907.00 918.89	919.59	0.70	1P 07 MONITOR REPORT
912.88	913.59	0.70	1P180058 CALL OUT -[FLAPS 1]
919.50	920.20	0.70	1P 07 MONITOR REPORT
919.50	923.70	0.70	1P16FB29 CALL OUT [FLAPS UP]
	929.20	0.70	1P 07 MONITOR REPORT
928.50 903.00	727.24		140003 ALTITUDE CHANGE PROC
003.00	\$13.00	10.00	4A 29 ACT FLT CONTROL TO CHANGE ALT
903.00	013.00	10.00	3L 02 MON VERTICAL SPEED Indic

SINCE MISSION BEGINNING	START END	ACTIVITY Time	EYENT/PROCEDURE TASK
903.00	903.77	0.77	3H 02 MON CORR BARO ALT INDIC
903.00	913.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
903.00	005.82	2.82	4B 03 ACTUATE BOTH Throttles
903.00	905.37	2.37	3F 01 MON MACH NO INDIC
913.00			140003 ALTITUDE CHANGE PROC
913.00	923.00	10.00	4A 29 ACT FLT CONTROL TO CHANGE ALT
913.00	923.00	10.00	3L 02 MON VERTICAL SPEED INDIC
813.00	918.77	0.77	3M 02 MON CORR BARO ALT INDIC
913.00	923.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
913.00	915.82	2.82	48 03 ACTUATE BOTH Throttles
913.00	915.37	2.37	3F 01 MON MACH NO INDIC
923.00			140003 ALTITUDE CHANGE PROC
923.00	933.00	10.00	4A 29 ACT FLT CONTROL TO Change alt
923.00	933.00	10.00	3L O2 MON VERTICAL SPEED INDIC
923.00	923.77	0.77	SH 02 MON CORR BARO ALT INDIC
923.00	933.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
923.00	925.82	2.02	48 03 ACTUATE BOTH THROTTLES
923.00	925.37	2.37	3F 01 MON MACH NO !NDIC
930.00			187801 ENTER ROUTE TO MACEY IN FLIGHT Management Computer
987.55	992.55	\$.00	2K S9 MON MAP VIDEO - NEW ROUTE APPEARS AS A DASHED LINE
983.90	995.90	2.00	2K 60 MON MAP VIDEO - MEW ROUTE APPEARS AS A SOLID LINE
995.90	997.27	1.37	2H 35 PRESS MOR PATH MODE SW
997.27	***.05	0.78	2M 36 MOM HOR PATH MODE L' Green - Hor Path Mode Emgaged
***.07	999.43	1.36	2H 39 PRESS VERT PATH MOD: SW
999,43	1000.21	0.70	2H 40 MON VERT PATH MODE Green – Vert Path Mode Engaged
933.00			140003 ALTITUDE CHANGE PROC
133.00	943.00	10.00	4A 29 ACT FLT CONTROL TO CHANGE ALT
933.00	943.00	10.00	3L 02 MON VERTICAL SPEED INDIC
833.00	933.77	0.77	3H 02 MON CORR BARO ALT INDIC
833.00	943.00	10.00	3R 10 MON PITCH ATTITUDE INDIC ON FDI
933.00	985.82	2.82	4B 03 ACTUATE BOTH THROTTLES
933.00	956.37	2.37	3F 01 MON MACH NO INDIC
943.00			140003 ALTITUDE CHANGE PROC
943.00	953.00	10.00	4A 29 ACT FLT CONTROL TO CHANGE ALT
943.00	953.00	10.00	3L 02 MON VERTICAL SPEED ! HDIC
943.00	943.77	0.77	2H 02 MON CORR BARO ALT INDIC

SINCE MISS		ACTIVITY Time	EVENT/PRO TASK	OCEDURE
SEGINNING 943.00	END 963.00	10.00	3R	10 MON PITCH ATTITUDE INDIC ON FD1
943.00	945.82	2.82	48	OS ACTUATE BOTH THROTTLES
943.00	945.37	2.37	3F	OT MON MACH NO INDIC
963.00			140003	ALTITUDE CHANGE PROC
953.00	963.00	10.00	4A	29 ACT FLT CONTROL TO CHANGE ALT
953.00	963.00	10.00	\$L	02 MON VERTICAL SPEED INDIC
953.00	953.77	0.77	\$H	02 MON CORR BARG ALT INDIC
953.00	963.00	10.00	38	10 MON PITCH ATTITUDE INDIC ON FDI
953.00	965.82	2.82	48	03 ACTUATE BOTH THROTTLES
953.00	955.37	2.37	35	01 MON MACH NO INDIC
963.00			140003	ALTITUDE CHANGE PROC
983.00	973.00	10.00	4A	29 ACT FLT CONTROL TO CHANGE ALT
963.00	973.00	10.00	31.	02 MON VERTICAL SPEED INDIC
963.00	963.77	0.77	3H	02 MON CORR BARO ALT
963.00	973.00	10.00	3R	10 MON PITCH ATTITUDE INDIC ON FDI
963.00	965.82	2.82	48	OS ACTUATE BOTH THROTTLES
963.00	165.37	2.37	3F	01 MON MACH NO INDIC
973.00			140003	ALTITUDE CHANGE PROC
973.00	963.00	10.00	4.4	29 ACT FLT CONTROL TO CHANGE ALT
973.00	083.00	10.00	3 L	02 MON VERTICAL SPEED INDIC
973.00	973.77	0.77	3Н	62 MON CORR BARO ALT
973.00	983.00	10.00	3R	10 MON PITCH ATTITUDE INDIC ON FDI
973.00	975.82	2.02	48	03 ACTUATE BOTH Throttles
873.00	975.37	2.37	3F	01 MON MACH NO INDIC
983.00			140003	ALTITUDE CHANGE PROC
983.00	993.00	10.00	4A	29 ACT FLT CONTROL TO CHANGE ALT
983.00	993.00	10.00	\$L	02 MON VERTICAL SPEED
983.00	983.77	0.77	\$H	02 MON CORR BARO ALT
983.00	983.00	10.00	38	10 MON PITCH ATTITUDE INDIC ON FDI
883.00	965.82	2.82	48	03 ACTUATE BOTH THROTTLES
983.00	985.37	2.37	9F	01 MON MACH NO INDIC

SINCE MISS	SION START	ACT!VITY Time	EVENT/PROCEDURE Task
445.00			160082 LANDING CHECKLI
47.00	847.60	0.60	1P 10 MONITOR OUT
. \$47 . \$0	848.00	0.40	1P 14 MONITOR CALL-OUT
850.00	880.70	0.70	1P 10 MONITOR CALL-OUT
851.00	852.30	1.30	1P180078 CALL OUT -[ARMED - GREEN LIGHT]
854.50	\$\$5.20	0.70	1P 10 MONITOR CALL-OUT
855.20	856.20	1.00	1P 10 MONITOR CALL-OUT
858.20	858.60	0.40	1P 14 MONITOR CALL-OUT
858.60	059.70	1.10	1P 12 MONITOR CALL-OUT
850.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
850.00	880.00	30.00	2K 14 MOR MAP VIDEO
850.00	880.00	30.00	2K 46 MON STRAIGHT TREND Vector symbol
850.00	880.00	30.00	2K 33 MON CURVED TREND YECTOR SYMBOLS
650.00	860.00	\$0.00	2J 13 MONILS BOX INDIC
850.00	880.00	\$0.00	2J 04 MON FLT PATH ACCEL INDIC
850.00	880.00	\$0.00	2J 01 MON ROLL ATT INDIC
850.00	800.00	30.00	2J 19 MON PITCH REF-INDIC
€50.00	##O.00	30.00	SA 10 MONITOR AIRSPEED INDIC
885.00			ODEVO2 C/P EXT VIS SCAN
885.00			10DL02 WINDSHEAR WARNING (FROM DC-0 AHEAD)
665.00	866.60	1.60	1D16XXQ1 MON INFORMATION MANAGEMENT ATENSON
866.60	868.60	2.00	1D16XX09 MON INFORMATION MANAGEMENT DISPLAT [MODE-8 UPLINK PHDQ] RED
870.40	878.40	●.00	1D18XY82 MONITOR COPILOT
880.00			187LO1 INITIATE GO-AROUND
880.00	***.*0	3.30	1P18FB03 CALL-OUT (GOING AROUND NOW, SET FLAP 15, GEAR UP)
880.00	882.50	2.50	48 09 PRESS THROTTLE GO- Around Switches

SINCE MISS		ACTIVITY TIME	EVENT/PRO Task	OCEDURE
BEGINNING 882.00	END		16F805	COPILOT GOAROUND
685.40	\$86.10	0.70	17	10 MONITOR CALL-OUT
893.15	193.45	0.30	19	16 MONITOR REPORT
897.80	899.80	2.00	19	02 MONITOR CALL-OUT
882.00			167L01	MISSED APPROACH CALL AMD REQUEST FOR HOLDING
897.00	800.80	1.80	10167	XXO1 MON INFORMATION MANAGEMENT ATENSON
898.60	900.60	2.00	10162	XX02 MON INFORMATION MANAGEMENT DISPLAY (MODE-8 UPLINK PNDG) AMBER
928.40	938.40	10.00	1010/	ALO1 MON COPILOT
121.40	939.40	10,00	2K	59 MON MAP VIDEO - NEW ROUTE APPEARS AS A DASHED LINE
938.40	948.40	10.00	1016/	ALO2 MON COPILOT
950.00	952.06	2.08	_ 21	18 MON LINE 8 MESSAGE [TEMP F-PLN UPDATED]
	953.42	1.42	21.	21 PRESS EXEC KEY
952.00 953.50	955.50	2.00	2K	60 MON MAP VIDEO - NEW ROUTE APPEARS AS A SOLID LINE
955.50	956.87	1.97	2H	35 PRESS HOR PATH MODE
956.90	957.88	0.78	2Н	48 MON HOR PATH MODE LT GREEN - HOR PATH MODE ENGAGED
957.70	959.06	1.30	2H	39 PRESS VERT PATH MODE
959.10	959.88	0.78	2 M	40 MON VERT PATH MODE L GREEN - VERT PATH MODE ENGAGED
*** **			140003	ALTITUDE CHANGE PROC
883.00 883.00	893.00	10.00	4A	29 ACT FLT CONTROL TO CHANGE ALT
883.00	893.00	10.00	3 L	02 MON VERTICAL SPEED
883.00	883.77	0.77	3H	02 MON CORR BARO ALT
863.00	893.00	10.00	SR	10 MON PITCH ATTITUDE
883.00	885.82	2.82	41	OS ACTUATE BOTH Throttles
863.00	865.37	2.37	3 <i>F</i>	OT MON MACH NO INDIC
893.00	••••	-	140003	ALTITUDE CHANGE PROC
193.00	903.00	10.00	44	29 ACT FLT CONTROL TO CHANGE ALT
893.00	903.00	10.00	\$L	02 MON VERTICAL SPEED
893.00	893.77	0.77	3H	02 MON CORR BARO ALT
893.00	903.00	10.00	\$R	10 MON PITCH ATTITUDE INDIC ON FDI
893.00	895.82	2.82	48	03 ACTUATE BOTH THROTTLES
883.00	895.37	2.37	3.F	01 MON MACH NO INDIC
899.00			18FB07	P/CP QOAROUND COMMUNICATIONS
888.00	903.50	4.50	1918	FB10 CALL-OUT (SET FLAPS 5 REPORT 3000 REPORT 170 KNOTS)
899.00			167808	CP FLAP SET AND CALLOUTS
904.00	904.70	0.70	1P	07 MONITOR REPORT
915.89	918.59	0.70	19	07 MONITOR REPORT

SINCE MIS	SION START END	ACTIVITY Time	EVENT/PROCI TASK	EDURE
909.89	910.59	0.70	191800	SE CALL OUT -[FLAPS 1]
916.50	917.20	0.70	1P (7 MONITOR REPORT
920.00	920.70	0.70	1P16FB:	O CALL OUT [FLAPS UP]
925.50	926.20	0.70	1P (7 MONITOR REPORT
B03.00	******	****	140003 A	TITUDE CHANGE PROC
₩03.00	113.00	10.00	4A :	S ACT FLT CONTROL TO CHANGE ALT
903.00	913.00	10.00	\$L (22 MON VERTICAL SPEED INDIC
903.00	003.77	0.77	3H	22 MON CORR BARO ALT
903.00	013.00	10.00	\$R	O MON PITCH ATTITUDE
903.00	905.82	2.82	48 (S ACTUATE BOTH THROTTLES
903.00	905.37	2.37	3F (1 MON MACH NO INDIC
913.00			140003 A	TITUDE CHANGE PROC
913.00	923.00	10.00	4A :	CHANGE ALT
913.00	923.00	10.00	\$L (2 MON VERTICAL SPEED INDIC
913.00	913.77	0.77	3H (D2 MON CORR BARO ALT
913.00	923.00	10.00	3R -	IO MON PITCH ATTITUDE INDIC ON FDI
913.00	915.82	2.82		ACTUATE BOTH THROTTLES
913.00	015.37	2.37	••)1 MON MACH NO INDIC
923.00				TITUDE CHANGE PROC
923.00	933.00	10.00	4A :	PACT FLT CONTROL TO CHANGE ALT
923.00	933.00	10.00	3 L (2 MON VERTICAL SPEED INDIC
923.00	923.77	0.77	3H (MON CORR BARO ALT
923.00	933.00	10.00	\$R	O MON PITCH ATTITUDE
923.00	925.82	2.82		THROTTLES
923.00 940.00	925.37	2.\$7	•••	DI MON MACH NO INDIC
940.00	950.00	10.00	44	29 ACT FLT CONTROL TO CHANGE ALT
940.00	950.00	10.00	\$L	MON VERTICAL SPEED
940.00	\$40.77	0.77	3H	MON CORR BARO ALT
940.00	950.00	10.00	an and	IO MON PITCH ATTITUDE INDIC ON FDI
840.00	942.82	2.82		DS ACTUATE BOTH THROTTLES
940.00	942.37	2.37	**	91 MON MACH NO INDIC
860.00				LIGHT INSTRUMENT CAN -A1, COPILOT
970.00			090048 F	LIGHT INSTRUMENT San -a2
970.00	1000.00	30.00	21	02 MON PITCH ATTITUDE INDIC
970.00	1000.00	30.00	\$L	2 MON YERTICAL SPEED INDIC
970.00	1000.00	30.00	3A	10 MONITOR AIRSPEED INDIC
870.00	1000.00	30.00	2K	14 MON MAP VIDEO
\$70.00	1000.00	\$0.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
970.00	1000.00	30.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
970.00				LIGHT INSTRUMENT Can -a1, copilot
980.00			180073 F	LIGHT INSTRUMENT CAN -A1, COPILOT
990.00			180073 F 8	LIGHT INSTRUMENT CAN -A1, COPILOT

B.12 ILS MISSED APPROACH WITH REROUTE—ADVANCED FLIGHT DECK Nonflying Pilot

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SINCE MISS	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
45.00			180082 LANDING CHECKL
445.00	846.00	1.00	### ##################################
847.00	847.60	0.60	1P180078 CALL OUT -[RECALL]
847.80	848.00	0.40	1P160077 CALL OUT -[CHECKED]
848.00	849.00	1.00	98090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACADD
850.00	850.70	0.70	1P180078 CALL OUT -[SPEED Brakes]
651.00	052.30	1.30	1P 02 MONITOR CALL-OUT
852 .50	853.50	1.00	\$BO9GOO1 READ WEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
854.50	\$55.20	0.70	1P160080 CALL OUT -{LANDING GEAR]
855.20	858.20	1.00	1P180081 CALL OUT -[DOWN, Three Green]
856.20	857.20	1.00	8B090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
\$50.20	458.80	0.40	1P160082 CALL OUT -(FLAPS)
858.80	659.70	1.10	1P160083 CALL OUT -[FIFTEEN GREEN LIGHT]
861.10	862.20	1.10	1P188884 CALL OUT -(CHECKLIST COMPLETE)
861.10	862.20	1.10	1P 12 MONITOR CALL-OUT
850.00			180071 FLIGHT INSTRUMENT SCAN -A2, PILOT
865.00			ODEVO2 C/P EXT VIS SCAN
885.00	875.00	10.00	SA 10 PILOT EXTERNAL VISION SCAN
865.00			16FB17 WINDSHEAR WARNING
865.00	875.00	10.00	1P16F827 N \$15.DC-9 3 MI AHD REPTS ABRUPT UNDSHR AT 1500 FT ON FINAL OBL.MAX THRST REQ~D
875.00	877.00	2.00	1P16FB28 S15, ROGER WINDSHEAR
880.00			18YLO1 INITIATE GO-AROUND
880.00	883.20	3.20	1P 15 MONITOR CALL-OUT
882.00			18F805 COPILOT GOAROUND ACTIVITIES
882.00	882.77	0.77	SH 02 MON CORR BARG ALT INDIC
882.00	882.78	0.78	7F 27 MON ENG NO 1 EPR BUG
882.00	882.76	0.78	7F 29 MON ENG NO 2 EPR BUG
682.00	892.00	10.00	3A 10 MONITOR AIRSPEED INDIC
882.00	882.20	0.20	76 40 MON MASTER CAUTION AND GVHD ANNUN LTS ON
883.40	885 . 42	2.02	4E 15 MONITOR FLAP Position indicator
885.40	886.40	1.00	1P18FB04 CALL-OUT (FLAPS 15)
887.40	890.46	3.06	4D 01 SET LNDQ GEAR LVR TO UP POSITION
887.40	887.94	0.54	4D 07 MONITOR NOSE GEAR Unlocked LT on
887.40	887.94	0.54	4D 11 MON LEFT/RT GEAR Unlocked Lt on
890.46	893.19	2.7\$	4B 07 MAKE MINOR THRUST Adjustment

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SINCE MISSIC	ON START END	ACTIVITY Time	EVENT/PROCEDURE TAEK
893.15	194.55	1.40	1P10FBOS CALL-OUT (BUG + 15)
897.80	898.34	0.54	4D OS MON NOSE REAR Unlocked Lt off
897.80	898.34	0.54	4D 12 MON LEFT/RT GEAR Unlocked Lt off
897.80	899.80	2.00	1P10FB06 CALL-OUT (GEAR UP, OFF)
882.00			18FB18 MISSED APPROACH AND HOLDING CLEARANCE
885.50	890.90	8.40	1P18FB08 RADIO-COMM (MASA 515 CLIMB RUHWAY HEADING TO 3000 , SAY YOUR INTENTIONS)
909.00	010.00	10.00	1P18FB24 NA S15.CLRD TO MACEY INT. TURN LT HDG 080, INTOPTPROCEED VIA AHN RADIAL 322.CLIMB
919.00	929.00	10.00	1P18FB2S AND MAINTAIN FL 180. HOLD N.E. OF MACEY AS PUBLISHED, EFC AT XXXX Z.
922.00	929.00	7.00	1P18FB30 COPILOT WRITES DOWN CLEARANCE TO MACEY
883.00			140003 ALTITUDE CHANGE PROC
.00			140003 ALTITUDE CHANGE PROC
902.00			18F807 P/CP GOAROUND COMMUNICATIONS
902,00	906.50	4.50	1P 19 MONITOR CALL OUT
902.00			10FB00 CP FLAP SET AND Callouts
902.00	904.69	2.69	4E OF BET FLAP CONT LEVER TO FLAPS 5
904.69	906.92	2.23	4E 15 MONITOR FLAP Position indicator
906.92	907.72	0.80	1P16FB11 CALL-OUT (FLAPS 5)
907.08	13.000	2.73	48 O7 MAKE MINOR THRUST Adjustment
909.81	911.83	2.02	7F 25 MON ENG NO 1 EPR IND
909.81	911.83	2.02	7F 30 MON ENG NO 2 EPR IND
911.89	918.89	7.00	SH OG MON ALTIMETER
918.89	919.69	0.80	1P18FB12 GALL-OUT (3000)
912.89	913.59	0.70	1P 07 MONITOR REPORT
914.00	916.89	2.69	4E 07 SET FLAP CONT LEVER TO FLAPS 1
917.00	919.23	2.2\$	4E 15 MONITOR FLAP POSITION INDICATOR
919,.50	920.20	0.70	1P1800S8 CALL OUT -[FLAPS 1]
920.50	922.52	2.02	7F 25 MON ENG NO 1 EPR IND
920.50	922.52	2.02	7F 30 MON ENG NO 2 EPR IND
923.00	923.70	0.70	1P 07 MONITOR REPORT
824.00	925.98	1.08	4E 06 SET FLAP CONT LEVER TO FLAPS 0
926.00	928.23	2.23	4E 15 MONITOR FLAP POSITION INDICATOR
\$28.50	929.20	0.70	1P18FB29 CALL OUT [FLAPS UP]
903.00			140003 ALTITUDE CHANGE PROC
913.00			140003 ALTITUDE CHANGE PROC
923.00			140003 ALTITUDE CHANGE PROC
930.00			197801 ENTER ROUTE TO MACEY IN FLIGHT MANAGEMENT COMPUTER
830.00	931.35	1.35	2L 37 PRESS A/WPT KEY
931.35	932.70	1.35	2L 44 PRESS H/RTE KEY
932.70	934.05	1.35	2L SO PRESS W KEY
934.05	935.40	1.35	2L 28 PRESS NO.3 KEY

SINCE MISSI BEGINNING	ON START	ACTIVITY Time	EVENT/PR Task	
935.40	936.75	1.38	2L	27 PRESS NO.2 KEY
936.75	938.10	1.35	2L	27 PRESS NO.2 KEY
938.10	939.45	1.35	2L	36 PRESS . (DECIMAL PT)
939.46	940.80	1.35	2L	26 PRESS NO.1 KEY
940.80	942.15	1.35	2L	27 PRESS NO.2 KEY
042.15	943.95	1.00	21.	70 LINE SELECT AHN322/ 12 FROM SCRATCH PAD TO [RTE LEGS] PAGE AFTER KATL.
943.95	945.95	2.00	21.	71 OBSERVE ANNOT WAY- POINT INSERTED ON ERTE LEGS) PAGE.
945.95	947.75	1.60	21	72 LINE SELECT AHNO1 TO SCRATCH PAD FROM [RTE LEGS] PAGE
947.75	949.55	1.80	21.	73 LINE SELECT AHNOT FROM SCRATCH PAD TO [DIRECT TO] PROMPT.
849.55	950.90	1.35	21.	40 PRESS M/BS KEY
950.90	962.25	1.35	2L	S7 PRESS A/WPT KEY
952.25	853.63	1.30	2L	SS PRESS C KEY
953.60	854.95	1.35	2L	41 PRESS E KEY
954.95	958.30	1.85	21	61 PRESS Y KEY
956.30	057.65	1.35	21.	36 PRESS . (DECIMAL PT)
967.65	959.00	1.85	2L	26 PRESS NO.1 KEY
959.00	960.35	1.35	2L	33 PRESS NO.8 KEY
960.35	961.70	1.35	21.	SS PRESS NO.0 KEY
961.70	963.05	1.35	2L	35 PRESS NO.0 KEY
963.05	964.40	1.35	2L	35 PRESS NO.0 KEY
964.40	906.20	1.00	21	74 LIME SELECT MACEY/ 12000 FROM SCRATCH PAD TO [THEM] PROMPT
988.20	968.00	1.80	21	75 LINE SELECT MACEY TO SCRATCH PAD FROM (RTE LEGS) PAGE
969.00	970.00	2.00	2L	76 PRESS [HOLD] KEY
870.00	971.80	1.80	2L	77 LINE SELECT MACEY FROM SCRATCH PAD TO [HOLD AT] PROMPT
971.80	973.15	1.35	2L	42 PRESS F/F-L KEY
973.15	974.50	1.35	2 L	48 PRESS L KEY
974.50	975.85	1.35	2L	28 - PRESS NO.1 KEY
875.85	977.20	1.36	2L	33 PRESS NO.8 KEY
977.20	978.55	1.35	2 L	35 PRESS NO.O KEY
978.86	980.35	1.80	2L	78 LIME SELECT FL180 FROM SCRATCH PAD TO (TOT ALT) PROMPT.
**0.35	981.70	1.35	2L	26 PRESS NO.1 KEY
981.70	983.05	1.85	2L	27 PRESS NO.2 KEY
	984.40	1.35	2L	28 PRESS NO.3 KEY
984.40	985.75	1.35	2L	29 PRESS NO.4 KEY
085.75	987.55	1.80	21.	79 LINE SELECT 1234 FROM SCRATCH PAD TO [EFC TIME] PROMPT.
987.55	192.55	S.00	2K	SO MON MAP VIDEO - NEW ROUTE APPEARS AS A DASHED LINE
192.55	993.90	1.35	21.	21 PRESS EXEC KEY
. 993.90	**5.90	2.00	2K	60 MON MAP VIDEO - NEW ROUTE APPEARS AS A SOLID LINE
933.00				ALTITUDE CHANGE PROC
943.00			140003	ALTITUDE CHANGE PROC
953.00				ALTITUDE CHANGE PROC
963.00			140003	ALTITUDE CHANGE PROC
973.00			140003	ALTITUDE CHANGE PROC
963.00			140003	ALTITUDE CHANGE PROC

SINCE MISSION BEGINNING	START END	ACTIVITY Time	EVENT/PROCEDURE TASK
945.00			160062 LANDING CHECKLI**
	848.00	1.00	88090001 READ MEX ME ON Checklist Control Column Placard
847.00	\$47.80	0.80	1P160076 CALL OUT -{RECALL}
	848.00	0.40	1P10077 CALL OUT -[CHECKED]
	849.00	1.00	88090001 READ MEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
850.00	850.70	0.70	1P180078 CALL OUT -[SPEED Brakes]
851.00	852.30	1.30	1P 02 MONITOR CALL-OUT
	853.50	1.00	#8090001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
854.50	855.20	0.70	1P160080 CALL OUT -{LANDING GEARJ
855.20	856.20	1.00	1P160081 CALL OUT -[DOWN, Three Green]
856.20	857.20	1.00	88090001 READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD
858.20	858.60	0.40	19160082 CALL OUT -(FLAPS)
	859.70	1.10	1P180083 CALL OUT -(FIFTEEN Green Light)
861.10	862.20	1.10	1P180084 CALL OUT -[CHECKLIST COMPLETE]
861.10	862.20	1.10	1P 12 MONITOR CALL-OUT
650.00			180071 FLIGHT INSTRUMENT Scan -A2, Pilot
865.00			ODEVO2 C/P EXT VIS SCAN
865.00	875.00	10.00	SA 10 PILOT EXTERNAL VISION SCAN
865.00			16DL62 WINDSHEAR WARNING (FROM DC-9 AMEAD)
885.00	866.60	1.80	1D16XX01 MON INFORMATION MANAGEMENT ATENSON
866.80	888.60	2.00	1D16XX09 MON INFORMATION MANAGEMENT DISPLAT (MODE-S UPLINK PHDQ) RED
868.60	\$70.40	1.80	1X180001 LINE SELECT [ATC UPLIMES PENDING]

			OF	POOR	QUALIT	. Y .		
SINCE MISS	BION START END	ACTIVITY Time	.0-2	-		EVENT/I		PURE
870.40	878.40	8.00				1011	XX82	READ-XXXX Z,DC-9 REPTS ABRUPT WINDSHR AT 1500 FT ON FINAL OSL,MAX THRUST REG-D
878.40	880.20	1.80				1216	0045	LINE SELECT
880.00						18YL01	INIT	TATE 90-AROUND
880.00	883.20	3.20				19	15	MONITOR CALL-OUT
882.00						185805	COP I	LOT GOAROUND VITIES
882.00	882.77	0.77				3 H	02	MON CORR BARO ALT
882.00	882.76	0.76				7#	27	MON ENG NO 1 EPR BUG
882.00	882.76	0.76				7#	28	MON ENG NO 2 EPR BUG
882.00	802.00	10.00				3A	10	MONITOR AIRSPEED
882.00	882.20	0.20				70	40	MON MASTER CAUTION AND OVHD ANNUN LTS ON
883.40	885.42	2.02				4E	15	MONITOR FLAP POSITION INDICATOR
EB5.40	888.40	1.00				1710	BFB04	CALL-OUT (FLAPS 15)
887.40	890.46	3.06				40	01	SET LUDG GEAR LYR
887.40	887.94	0.54				40	07	MONITOR NOSE GEAR UNLOCKED LT ON
887.40	887.94	0.54				40	11	MON LEFT/RT GEAR UNLOCKED LT ON
890.46	894.19	2.73				48	07	MAKE MINOR THRUST ADJUSTMENT
893.15	884.55	1.40				191	SFB05	CALL-OUT (BUG + 15)
897.80	898.34	0.54				40	00	MON MOSE GEAR UNLOCKED LT OFF
897.00	898.34	0.54				40	12	MON LEFT/RT GEAR UNLOCKED LT OFF
897.80	899.80	2.00					6FB06	CALL-OUT (SEAR UP, OFF)
882.00						1671.01	MISS AND HOLE	
882.00	883.80	1.80					60002	LIME SELECT [REQUEST FOR CLEARANCE]
883.80		1.00					6 001 8	LIME SELECT [MAKING MISSED APPROACH]
885.80	886.80	1.20					60031	PRESS KEY [1]
886.80	888.00	1.20					60044	PRESS (ENT)
***.00	849.20	1.20					0035	PRESS KEY (5) PRESS [ENT]
889.20	890.40	1.20					80044 80023	LINE BELECT (ENTER
\$\$ 0.40	692.20	1.80				141	••••	HOLDING FOR XX MIN]
897.00	898.60	1.80				101	6XX01	MON INFORMATION MANAGEMENT ATENSON
191.40	900.80	2.00				101	6 XX02	MON INFORMATION MANAGEMENT DISPLAY [MODE-S UPLINK PHDQ] AMBER
928.80	928.40	1.80				121	80001	LIME SELECT [ATC UPLIMES PENDING]
928.40	938.40	10.00				191	6 XL01	READ-CLRD TO MACEY INT.TURN LT HDQ 080. INTCPT AND PROCEED VIA AHN R-822.CLIMB
938.40	948.40	10.00				101	exlo2	AND MAINTAIN FLIBO, NOLD NE OF MACEY AS PUBLEND, EFC XXXX Z.
948.40	950.20	1.00				121	80041	LINE SELECT
883.00						140003	ALT	ITUDE CHANGE PROC
893.00						140003	ALT	ITUDE CHANGE PROC

SINCE MISSIO	M START END	ACTIVITY Time	EVENT/P TAS	ROCEDURE K
899.00	•		16FB07	P/CP GOAROUND COMMUNICATIONS
.00	903.50	4.50	19	18 MONITOR CALL OUT
889.00			16FB08	CP FLAP SET AND CALLOUTS
800.00	901.69	2.89	4E	09 SET FLAP CONT LEVER TO FLAPS S
901.69	903.92	2.23	4E	15 MONITOR FLAP POSITION INDICATOR
903.92	904.72	0.00	1916	FB11 CALL-OUT (FLAPS 5)
904.08	906.81	2.73	48	07 MAKE MINOR THRUST ADJUSTMENT
906.81	908.83	2.02	7#	25 MON ENG NO 1 EPR IND
906.81	908.83	2.02	7.5	SO MON ENG NO 2 EPR IND
908.89	915.89	7.00	314	OS MON ALTIMETER
915.89	816.69	0.80	1710	FB12 CALL-OUT [3000]
909.89	910.59	0.70	17	07 MONITOR REPORT
911.00	913.69	2.69	48	07 SET FLAP CONT LEVER TO FLAPS 1
914.00	916.23	2.23	4E	15 MONITOR FLAP POSITION INDICATOR
916.50	917.20	0.70	1910	OOSS CALL OUT -[FLAPS 1]
917.50	919.52	2.02	7#	25 MON ENG NO 1 EPR IND
917.50	919.52	2.02	7 F	30 MON ENG NO 2 EPR IND
920.00	920.70	0.70	19	07 MONITOR REPORT
921.00	922.98	1.98	4E	OB SET FLAP CONT LEVER TO FLAPS O
023.00	925.23	2.23	4E	15 MONITOR FLAP POSITION INDICATOR
925.50	926.20	0.70	191	BFB29 CALL OUT [FLAPS UP]
903.00			140003	ALTITUDE CHANGE PROC
913.00			140003	ALTITUDE CHANGE PROC
923.00			140003	ALTITUDE CHANGE PROC
940.00			140003	ALTITUDE CHANGE PROC
960.00			180073	FLIGHT INSTRUMENT SCAN -A1, COPILOT
960.00	870.00	10.00	2K	14 MON MAP VIDEO
860.00	970.00	10.00	2K	44 MON STRAIGHT TREND VECTOR SYMBOL
960.00	970.00	10.00	2K	33 MON CURVED TREND VECTOR SYMBOLS
960.00	970.00	10.00	2,1	OS MON FLT PATH ANGLE INDIC
960.00	\$70.00	10.00	21	04 MON FLT PATH ACCEL INDIC
950.00	970.00	10.00	2,1	01 MON ROLL ATT INDIC
960.00	970.00	10.00	2J	19 MON PITCH REF INDIC
860.00	970.00	10.00	3A	10 MONITOR AIRSPEED INDIC
\$70.00			090048	FLIGHT INSTRUMENT SCAN -A2
.			190073	FLIGHT INSTRUMENT
970.00				SCAN -A1, COPILOT
970.00	980.00	10.00	2K 2K	14 MON MAP VIDEO 46 MON STRAIGHT TREND
970.00	980.00	10.00	2K	VECTOR SYMBOL
970.00	960.00	10.00	2K	33 MON CURYED TREND VECTOR SYMBOLS
970.00	880.00	10.00	21	OS MON FLT PATH ANGLE INDIC
970.00	180.00	10,00	2,1	04 MON FLT PATH ACCEL INDIC
970.00	980.00	10.00	23	01 MON ROLL ATT INDIC

SINCE MISS	ION START	ACTIVITY TIME	EVENT/PROCEDURE TASK	
970.00	980.00	10.00	2J 18 MON PITCH REF INDI	¢
970.00	980.00	10.00	SA 10 MONITOR AIRSPEED INDIC	
980.00			180073 FLIGHT INSTRUMENT Scan —A1, copilot	
880.00		10.00	2K 14 MON MAP VIDEO	
980.00	990.00	10.00	2K 46 MON STRAIGHT TREND VECTOR SYMBOL	
980.00	990.00	10.00	2K 33 MON CURVED TREND VECTOR SYMBOLS	
980.00	990.00	10.00	2J OS MON FLT PATH ANGLE Indic	
980.00	990.00	10.00	2J 04 MON FLT PATH ACCEL INDIC	
980.00	980.00	10.00	2J O1 MON ROLL ATT INDIC	
980.00	990.00	10.00	2J 19 MON PITCH REF INDI	C
980.00	990.00	10.00	3A 10 MONITOR AIRSPEED INDIC	
990.00			180073 FLIGHT INSTRUMENT SCAN -A1, COPILOT	
990.00	1000.00	10.00	2K 14 MON MAP VIDEO	
990.00	1000.00	10.00	2K 46 MON STRAIGHT TREND Vector symbol	
990.00	1000.00	10.00	2K 33 MON CURVED TREND Vector symbols	
900.00	1000.00	10.00	2J OS MON FLT PATH ANGLE Indic	
990,00	1000.00	10.00	2J 04 MON FLT PATH ACCEL INDIC	
990.00	1000.00	10.00	2J 91 MON ROLL ATT INDIC	
990.00	1000.00	10.00	2J 19 MON PITCH REF INDI	C
990.00	1000.00	10.00	3A 10 MONITOR AIRSPEED INDIC	

B.13 TCAS ENCOUNTER—CONVENTIONAL FLIGHT DECK Flying Pilot

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SINCE MISS	SION START	ACTIVITY TIME	EVENT/PROCEDURE TASK
195.00			180091 HANDOFF TO ATT RAL APPROACH CONT. AER
195,00	207.00	12.00	1P18XX91 W 818,TURW RT HD0270 DESCHD AND MAINTAIN 8000 FT.CONTACT ATL APPR ON 127.25.
200.00			140007 HEADING CHANGE PROC.
200.00	210.00	10.00	3\$ 01 MONITOR A/C HEADING Relative to selected HDQ on C1
200.00	210.00	10.00	4A 28 ACT FLT CONTROL TO Change HDQ
200.00	210.00	10.00	SL 02 MON YERTICAL SPEED Indic
200.00	204.92	4.92	38 11 SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT
205.00	215.00	10.00	SR SS MOM A/C ATTITUDE RELATIVE TO ROLL COMMAND ON FDI
200.00			16BL02 BEGIN TURN TO DOWN- Wind LEG
210.00			16BLO3 DESCEND THRU 11000.
215.00			18AAO1 ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERM MED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CROSSING BAHARR AT 5000 FT.
216.00	217.73	2.73	4B 07 MAKE MINOR THRUST Adjustment
215.00	220.00	6.00	4A 64 MANUALLY CONTROL A/C
219.00			160092 TUME ATL APPROACH Om 127.25
228.00			180093 CONTACT ATL APPROACH ON 127.25
231.90	235.00	4.00	1P18YY90 MAEA 818,ATL APPR, ROGER.
220.00			090003 FLIGHT INSTRUMENT SCAN - A

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SINCE MISSIC BEGINNING	N START	ACTIVITY TIME	EVENT/PROCEDUR TASK	E
220.00	230.00	10.00	3R 10	MON PITCH ATTITUDE
220.00	230.00	10.00	3L 02	MON YERTICAL SPEED
220.00	230.00	10.00	3A 10	MONITOR AIRSPEED
220.00	230.00	10.00	38 01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
230.00			090003 FLIGH Scan	T INSTRUMENT
230.00	240.00	10.00	3R 10	MON PITCH ATTITUDE
230.00	240.00	10.00	3L 02	MON VERTICAL SPEED
230.00	240.00	10.00	3A 10	MONITOR AIRSPEED
230.00	240.00	10.00	35 01	MONITOR A/C HEADING RELATIVE TO SELECTED HDG ON CI
240.00			18TC01 TCAS	ENCOUNTER
240.00	241.80	1.60	1916XX10	MON MASTER CAUTION AURAL ALERT 2 CONCURRENT TOMES 300-1500 HZ.
240.00	241.00	1.00	10102203	MON MASTER CAUTION VISUAL ALERT-AMBER
241.60	243.00	1.40	17C00001	MON VISUAL ALERT DISPLAY - AMBER [TCAS ALERT]
244.00	255.00	11.00	1 TC00003	PILOT VISUAL SEARCH FOR TRAFFIC
244.00	255.00	11.00	1700015	MONITOR TRAFFIC DISPLAY
244.00	247.00	3.00	17C00017	MON CALL OUT-[TRAF- FIC AT 1-OCLOCK, 1200 FEET BELOW, AND CLIMBING]
252.00	255.00	3.00	17000023	MON CALL OUT-[TRAF- FIC AT 1 O-CLOCK, 800 FEET BELOW, AND CLIMBING]
255.00	255.75	0.75	1018XX04	MON MASTER WARNING AURAL ALERT 2 ALTERNATING TONES 400 TO 1000 HZ.
255.00	258.00	1.00	1816XX05	MON MASTER WARNING VISUAL ALERT - RED
255.90	257.50	1.70	17C00008	RESOLUTION ADVISORY VOICE ALERT, [TCAS CLIMB,CLIMB,CLIMB]
255.80	263.40	7.80	17C00021	PILOT EVALUATES SITUATION AND DECIDES TO RESPOND TO R. A.
255.00	275.00	20.00	17C00007	MON TIME CRITICAL VISUAL ALERT DISPLAY [1981 RED EYEBROWS] CLIMB INDICATION
259.00	283.00	4.00	1TC00018	MONITOR TRAFFIC DISPLAY
259.00	262.00	3.00	1700025	MON CALL OUT-ETRAF- FIC AT 1 O-CLOCK, 700 FEET BELOW, AND CLIMBING]
262.40	263.40	1.00	3R 64	PRESS AUTOPILOT DISENGAGE SWITCH ON CONTROL WHEEL
263.00	268.00	8.00	· 8A 10	PILOT EXTERNAL VISION SCAN
263.00	268.00	\$.00	8A 10	PILOT EXTERNAL VISION SCAN
263.40	283.40	20.00	4A 29	ACT FLT CONTROL TO CHANGE ALT

SINCE MISS BEGINNING	ION START	ACTIVITY Time	EVENT/PROCI TASK	EDURE
283.40	266.22	2.62	48 (S ACTUATE BOTH Throttles
265.00	269.00	4.00	170002	CALL OUT-LOK, WE ARE CLIMBING.KEEP AN EYE ON THAT GUY AND CALL APPROACH.]
265.90	266.34	0.44	7F 2	S MON ENG NO 1 EPR IND
265.90	268.34	0.44	7F :	O MON ENG NO 2 EPR IND
268.90	273.90	5.00	8A 1	O PILOT EXTERNAL VISION SCAN
268.90	273.90	5.00	BA 1	O PILOT EXTERNAL VISION SCAN
270.00	273.00	3.00	170002	IS MON CALL OUT-TOK, HE IS STILL AT 700 FEET BELOW US]
275.00	277.40	2.40	170000	S MON CALL OUT [CLEAR OF CONFLICT [MG TRAFFIC]
275.00	280.00	5.00	8A 1	O PILOT EXTERNAL YISION SCAN
279.00	209.00	20.00	8A 1	O PILOT EXTERNAL VISION SCAN
279.00	299.00	20.00	8A 1	O PILOT EXTERNAL VISION SCAN
277.00	279.82	2.82	48 (S ACTUATE BOTH THROTTLES
277.00	279.05	2.05	3R 1	O MON PITCH ATTITUDE INDIC ON FDI
279.00	279.44	0.44	79 2	S MON ENG NO 1 EPR IND
279.00	279.44	0.44	7F 1	O MON ENG NO 2 EPR IND
200.00	282.03	2.03	\$L (1 MON VERTICAL SPEED
283.40	298.40	15.00	4A 2	S ACT FLT CONTROL TO CHANGE ALT
288.00	295.00	7.00	170000	CO CROGER SIS, RADAR SHOWS REGATIVE TRAF FIC. CONTINUE DESCENT AS CLEARED.
298.00			P1	F-EMGAGE AUTOPILOT TCH AND ROLL JANNELS IN MAN CWS
298.00	\$00.00	2.00	3R (S ACTUATE AUTOPILOT PITCH AND ROLL CHANNEL SWITCHES
295.00			00EV09 C	P EXT VIS SCAN
310.00				IGHT INSTRUMENT AN - D
310.00	370.00	60.00	3R - 5	66 MON PITCH ATTITUDE INDIC ON FDI
310.00	870.00	60.00	\$L (2 MON VERTICAL SPEED INDIC
310.00	370.00	80.00	3A 1	O MONITOR AIRSPEED
310.00	\$70.00	80.00	38 1	S MONITOR A/C HEADING RELATIVE TO SELECTED

B.14 TCAS ENCOUNTER—CONVENTIONAL FLIGHT DECK Nonflying Pilot

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SINCE MIS BEGINNING	SION START END	ACTIVITY Time	EVENT/PROCEDURE TASK
195.00			180091 HANDOFF TO AT' THAL APPROACH CONT. LER
195.00	207.00	12.00	1P16XX91 W 518,TURW RT HDQ270 DESCMD AND MAINTAIN 8000 FT,COWTACT ATL APPR ON 127.23.
207.00	214.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
207.00	214.00	7.00	1P16YY91 515,ROGER,HDG 270, MAINTAIN 6000,APPR ON 127.25.
200.00			140007 HEADING CHANGE PROC.
200.00			18BL02 BEGIN TURN TO DOWN- WIND LEG
210.00			16BLO3 DESCEND THRU 11000.
218.00			16AAO1 ADJUST THRUST AND PITCH TO MAINTAIN A 900 FPM DESCENT AT 250 KCAS USING PITCH CWS MODE OF A.P. PILOT HAS DETERMINED THAT THIS SHOULD PERMIT DECEL TO 210 FOR CAOSSING BAHRR AT 5000 FT.
219.00			160092 TUNE ATL APPROACH OM 127.25
219.00	223.88	4.88	18 01 MON VHF-2L FREQ IND
219.00	221.90	2.90	18 02 SET VMF-2L FREQ- WMOLE NO.8
221.00	223.86	1.96	1B 03 SET VMF-2L FREQ - Fractions
228.00			180093 CONTACT ATL APPROACH ON 127.25
228.00	227.49	1.49	1B OS SET VHF-2 COMM TFR SW TO LEFT
228.40	231.90	3.50	1A 10 ACT PUSH-TO-TALK SW
228.40	231.00	3.50	1P18XX93 ATL APPR. NASA 515 Descending to 6000.
231.90	235.90	4.00	1P18YY00 MASA 518,ATL APPR, Roger,

SINCE MISSIC BEGINNING	N START	ACTIVITY TIME	EVENT/PROCEDURE Task
220.00			090003 FLIGHT INSTRUMENT SCAN - A
230.00			090003 FLIGHT INSTRUMENT SCAN - Å
240.00			16TCO1 TCAS ENCOUNTER
240.00	241.60	1.60	1D16XX10 MON MASTER CAUTION AURAL ALERT 2 CONCURRENT TOMES 300-1500 HZ.
240.00	241.00	1.00	1D16XX03 MON MASTER CAUTION Visual Alert-Amber
240.00	295.00	55.00	SA 12 PILOT EXTERNAL Vision Scan
241.60	243.00	1.40	1TC00018 PRESS MASTER CAUTION SWITCH
241.60	243.00	1.40	1TC00001 MON YISUAL ALERT DISPLAY - AMBER [TCAS ALERT]
244.00	247.00	3.00	1TC00002 CALL OUT-[TRAFFIC AT 1 O-CLOCK, 1200 FT BELOW, AND CLIMBING]
244.00	255.00	11.00 -	1TC00004 MONITOR TCAS TRAFFIC DISPLAY
252.00	255.00	3.00	1TC00022 CALL OUT-ETRAFFIC AT 1 O-CLOCK, 900 FEET SELOW, AND CLIMBING?
255.00	255.75	0.75	1018XX04 MON MASTER WARNING AURAL ALERT 2 ALTERNATING TOMES 400 TO 1000 MZ.
255.00	256.00	1.00	1D16XXOS MON MASTER WARNING Visual Alert - Red
255.80	257.50	1.70	1TC00006 RESOLUTION ADVISORY VOICE ALERT, [TCAS CLIMB,CLIMB,CLIMB]
255.00	275.00	20.00	1TC00007 MON TIME CRITICAL VISUAL ALERT DISPLAY [IVS! RED EYEBROWS] CLIMB INDICATION
257.50	258.90	1.40	1TC00019 PRESS MASTER WARNING Switch
259.00	282.00	3.00	1TC00024 CALL OUT-ITRAFFIC AT 1 O-CLOCK, 700 FEET BELOW, AND CLIMBING]
259.00	275.00	18.00	1TC00004 MONITOR TCAS Traffic Display
265.00	269.00	4.00	1TC00027 MON CALL OUT-TOK, WE ARE CLIMBING.KEEP AN EYE ON THAT GUY AND CALL APPROACH.]
270.00	273.00	3.00	1TC00028 CALL OUT-[OK, HE IS STILL AT 700 FEET BELOW US]
278.00	288.00	10.00	1TC00000 CALL ATC. [ATL APPR. MASA 515 LEVEL AT 10,800 DUE TO TCAS RA, PLEASE ADVISE]
275.00	277.40	2.40	1TC00011 CALL DUT - [CLEAR OF COMPLICTING TRAFFIC]
277.00	277.77	0.77	3H O2 MON CORR BARO ALT INDIC
288.00	295.00	7.00	1TC00020 [ROGER S15,RADAR SHOWS MEGATIVE TRAFFIC.CONTINUE DESCENT AS CLEARED.
299.00			18TCO2 RE-ENGAGE AUTOPILOT PITCH AND ROLL CHANNELS IN MAN CWS
295.00			ODEVOS C/P EXT VIS SCAN
295.00	\$40.00	45.00	SA 12 PILOT EXTERNAL Vision Scan

B.15 TCAS ENCOUNTER—ADVANCED FLIGHT DECK Flying Pilot

200.00 18081 ENTERA MEM ALT IN MCP	SINCE MISSION BEGINNING	START ACT	TVITY IE	EVENT/PROC	CEDURE
200.00 18081 ENTERA MEM ALT IN MCP	195.00			180091	HANDOFF TO AT TIMAL APPROACH CONT. LER
200.00 202.47 2.47 2.47 2.47 2M 33 ROTATE ALT ENG KNOB 200.00 200.78 0.78 2M 31 MOM ALT ENG MODE 201.40 202.48 1.08 2M 34 READ ALT ENG YALUE 202.60 203.92 1.42 2M 28 PRESS ALT ENG MODE 203.90 204.88 0.78 2M 30 MOM ALT ENG MODE LT MODE ARMED 200.00 108.00 2M 108.00 2	195.00	207.00	12.00	17162)	DESCHO AND MAINTAIN 8000 FT, CONTACT ATL
200.00 200.78 0.78 2H 31 MON ALT ENG MODE LT ENUE - ALT ENG MODE LT ENGER - ALT ENG MODE LT ENGER - ALT ENG MODE LT ENGER - ALT ENG MODE AND ENGRE - ALT ENG MODE	200.00			180081	ENTER/ARM NEW ALT IN MCP
201.40 202.48 1.08 2H 34 READ ALT ENG WODE PRESELECTED ON DIGITAL INDIC SWEET OF THE PRESS ALT ENG MODE LT ORANGE - ALT ENG	200.00	202.47	2.47	2H	
201.50	200.00	200.70	0.78	2 H	BLUE - ALT ENG MODE
203.90 204.68 0.78 2M 30 MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED MODE ARMED WIND LEG WIND LEG WIND LEG IN MCP. 205.00 207.50 2.50 2M 19 ROTATE TKA SEL KNOB 1N MCP. 205.00 208.11 1.11 2M 20 READ TKA SEL VALUE OR DIGITAL INDIC OR DIGITAL INDIC OR DIGITAL INDIC ENGAGED 207.50 208.27 0.77 2H 15 MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED 210.00 220.00 10.00 220.00 3L 0.00 3L 02 MON PITCH ATTITUDE INDIC 210.00 220.00 10.00 3L 02 MON VERTICAL SPEED INDIC 210.00 220.00 10.00 3A 10 MONITOR AIRSPEED	201.40	202.48	1.08	211	
ORANGE - ALT ENG MODE ARMED 200.00 168L02 BEGIN TURN TO DOWN-WIND LEG 205.00 207.50 207.50 208.11 1.11 207.50 208.27 207.50 208.27 207.70 208.27 207.70 208.27 207.70 208.20 208.27 207.70 208.20 208.27 207.70 208.20 208.21 208.27	202.50	203.92	1.42	2 H	
205.00 207.50 2.50 2.50 2H 19 ROTATE TKA SEL KNOB 205.00 208.11 1.11 2H 20 READ TKA SEL VALUE 207.50 208.27 0.77 2H 15 MON TKA SEL WODE LT QREEN - TKA SEL MODE LT QREEN - TKA SEL MODE ENGAGED 210.00 15BL03 DESCEND THRU 11000. 210.00 220.00 10.00 210.00 210.00 3L 02 MON PITCH ATTITUDE INDIC 210.00 220.00 10.00 3L 02 MON VERTICAL SPEED INDIC 210.00 220.00 10.00 3A 10 MONITOR AIRSPEED	203.90	204.88	0.70	211	ORANGE - ALT ENG
205.00 207.50 2.50 2M 19 ROTATE TKA SEL KNOB 205.00 208.11 1.11 2M 20 READ TKA SEL VALUE 207.50 208.27 0.77 2H 15 MON TKA SEL MODE LT GREEN - TKA SEL MODE LT GREEN - TKA SEL MODE 210.00 158L03 DESCEND THRU 11000. 210.00 220.00 10.00 220.00 220.00 10.00 210.00 3L 02 MON PITCH ATTITUDE 1NDIC 210.00 220.00 10.00 3L 02 MON VERTICAL SPEED 1NDIC 210.00 220.00 10.00 3A 10 MONITOR AIRSPEED	200.00				
205.00 207.50 2.50 2.50 2.50 2.50 2.50 2.50 2.50 2	205.00				
205.00 208.11 1.11 2H 20 READ TRA SEL VALUE ON DIGITAL INDIC	205.00	207.50	2.50		
### TRA SEL MODE ENGAGED ###################################			1.11	211	20 READ THA SEL VALUE ON DIGITAL INDIC
210.00	207.50	208.27	0.77	2H	GREEN - TKA SEL MODE
210.00 220.00 10.00 21 02 MON PITCH ATTITUDE INDIC 210.00 220.00 10.00 3L 02 MON VERTICAL SPEED INDIC 210.00 220.00 10.00 3A 10 MONITOR AIRSPEED	210.00			16BL03	DESCEND THRU 11000.
210.00 220.00 10.00 3L 02 MON YERTICAL SPEED INDIC	210.00				
INDIC 210 00 220 00 10.00 \$A 10 MONITOR AIRSPEED	210.00	220.00	10.00	2,1	
	210.00	220.00	10.00	3L	
210.00 220.00 INDIC	210.00	220.00	10.00	3A	
210.00 220.00 10.00 2K 14 MON MAP VIDEO	210.00	220.00	10.00	2K	14 MON MAP VIDEO
210.00 220.00 10.00 2K 48 MON STRAIGHT TREND VECTOR SYMBOL	210.00	220.00	10.00	2K	
210.00 220.00 10.00 2K 3S MON CURVED TREND VECTOR SYMBOLS	210.00	220.00	10.00	2K	
219.00 180092 TUNE ATL APPROACH ON 127.25	219.00				
228.00 180093 CONTACT ATL APPROACH ON 127.23	226.00				
231.90 235.90 4.00 1P18Y90 NASA 515,ATL APPR,	231.90	235.90	4.00	19167	
220.00 090051 FLIGHT INSTRUMENT SCAN -A1	220.00			090051	FLIGHT INSTRUMENT SCAN -A1
220.00 230.00 10.00 2J 02 MON PITCH ATTITUDE INDIC	220.00	230.00	10.00	21	
220.00 230.00 10.00 SL 02 MON VERTICAL SPEED INDIC	220.00	230.00	10.00	\$L	02 MON VERTICAL SPEED INDIC
220.00 230.00 10.00 3A 10 MONITOR AIRSPEED INDIC	220.00	230.00	10.00	3A	
220.00 230.00 10.00 2K 14 MON MAP VIDEO	220.00	230.00	10.00	2K	14 MON MAP VIDEO
220.00 230.00 10.00 2K 46 MON STRAIGHT TREND YECTOR SYMBOL	220.00	230.00	10.00	2K	48 MON STRAIGHT TREND VECTOR SYMBOL
220.00 230.00 10.00 2K 33 MON CURVED TREND VECTOR SYMBOLS	220.00	230.00	10.00	2K	
230.00 090051 FLIGHT INSTRUMENT SCAN -A1	230.00				
230.00 240.00 10.00 2J 02 MON PITCH ATTITUDE	230.00	240.00	10.00	2,1	
230.00 240.00 10.00 3L 02 MON VERTICAL SPEED INDIC	230.00	240.00	10.00	3 L	02 MON VERTICAL SPEED
230.00 240.00 10.00 SA 10 MONITOR AIRSPEED INDIC	230.00	240.00	10.00	\$ A	
230.00 240.00 10.00 2K 14 MON MAP VIDEO	230.00	240.00		2K	14 MON MAP VIDEO
230.00 240.00 10.00 2K 46 MON STRAIGHT TREND VECTOR SYMBOL		240.00	10.00	2 K	46 MON STRAIGHT TREND VECTOR SYMBOL
230.00 240.00 10.00 2K 33 MON CURVED TREND VECTOR SYMBOLS	230.00	240.00	10.00	2K	33 MON CURVED TREND

SINCE MISSION BEGINNING	N START END	ACTIVITY TIME	EVENT/PROCEDU TASK	RE
240.00	•		18TCO1 TCAS	ENCOUNTER
240.00	241.60	1.00	1016XX10	MON MASTER CAUTION AURAL ALERT 2 CONCURRENT TONES 300-1500 HZ.
240.00	241.00	1.00	1016XX03	MON MASTER CAUTION VISUAL ALERT-AMBER
241.60	243.00	1.40	1700001	MON VISUAL ALERT Display - Amber [TCAS Alert]
244.00	255.00	11.00	1700003	PILOT VISUAL SEARCH FOR TRAFFIC
244.00	255.00	11.00	1700015	MONITOR TRAFFIC DISPLAY
244.00	247.00	3.00	1TC00017	MON CALL OUT-[TRAF- FIC AT 1-OCLOCK, 1200 FEET BELOW, AND CLIMBING]
252.00	255.00	3.00	1700023	MON CALL OUT-ITRAF- FIC AT 1 O-CLOCK, 900 FEET BELOW, AND CLIMBING)
255.00	255.75	0.75	1016XX04	MON MASTER WARNING AURAL ALERT 2 ALTERNATING TONES 400 TO 1000 HZ.
255.00	256.00	1.00	1016XX05	MON MASTER WARNING Visual Alert - Red
255.80	257.50	1.70	1700000	RESOLUTION ADVISORY VOICE ALERT, [TCAS CLIMB, CLIMB, CLIMB]
256.80	263.40	7.40	1TC00021	PILOT EVALUATES SITUATION AND DECIDES TO RESPOND TO R. A.
255.00	275.00	20.00	1700007	MON TIME CRITICAL VISUAL ALERT DISPLAY (IVSI RED EYEBROWS) CLIMB INDICATION
259.00	283.00	4.00	1700015	MONITOR TRAFFIC DISPLAY
250.00	262.00	3.00	1TC00025	MON CALL OUT-[TRAF- FIC AT 1 O-CLOCK, 700 FEET BELOW, AND CLIMBING]
262.40	263.40	1.00	3R 64	PRESS AUTOPILOT DISENGAGE SWITCH ON CONTROL WHEEL
263.00	268.00	\$.00	8A 10	PILOT EXTERNAL VISION SCAN
263.00	268.00	5.00	8A 10	PILOT EXTERNAL VISION SCAN
263.40	283.40	20.00	4A 29	ACT FLT CONTROL TO Change alt
263.40	268.22	2.82	48 03	ACTUATE BOTH THROTTLES
265.00	269.00	4.00	1700028	CALL OUT-TOK, WE ARE CLIMBING.KEEP AN EYE ON THAT QUY AND CALL APPROACH.]
285.90	266.34	0.44	7F 25	MON ENG NO 1 EPR IND
285.90	288.34	0.44	7F 30	MON ENG NO 2 EPR IND
268.90	273.90	\$.00	8A 10	PILOT EXTERNAL VISION SCAN
268.90	273.90	\$.00	8A 10	PILOT EXTERNAL VISION SCAN
270.00	278.00	8.00	1700029	MON CALL OUT-TOK, HE IS STILL AT 700 FEET BELOW US]
275.00	277.40	2.40	1700016	MON CALL OUT [CLEAR OF CONFLICT INC TRAFFIC]
275.00	280.00	\$.00	#A 10	PILOT EXTERNAL VISION SCAN
279.00	299.00	20.00	8A 10	PILOT EXTERNAL VISION SCAN

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SINCE MISS	ION START	ACTIVITY Time	OF	POOR	QUALITY.	EVENT/P		RE
279.00	299.00	20.00				8A	10	PILOT EXTERNAL VISION SCAN
277.00	279.82	2.82	,			48	01	ACTUATE BOTH Throttles
277.00	279.05	2.05				38	10	MON PITCH ATTITUDE
278.00	279.44	0.44				7 F	25	MON ENG NO 1 EPR IND
279.00	279.44	0.44				7 F	30	MON ENG NO 2 EPR IND
200.00	282.03	2.03				3L	01	MON VERTICAL SPEED
283.40	298.40	15.00				4A	20	ACT FLT CONTROL TO CHANGE ALT
288.00	295.00	7.00				110	00020	IROGER 515.RADAR SHOWS MEGATIVE TRAF FIG.CONTINUE DESCENT AS CLEARED.
298.00						187002	IN P	NGAGE AUTOPILOT REVIOUSLY SELEC- AUTO-FLIGHT 8 (FPA,TKA,CAS)
298.00	299.42	1.42				2H	07	PRESS AUTO MODE SW
200.40	\$00.17	0.77				211	15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED
299.40	\$00.17	0.77				2H	22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE EMGAGED
100.20	302.85	2.45				2 H	28	ROTATE FPA SEL KNOB
300.20	300.87	0.77				2 H	. 24	MONITOR FPA SEL MODE LT BLUE - FPA SEL MODE PRESELECTED
301.80	302.68	1.08				211	27	READ FPA SEL VALUE ON DIGITAL INDIC
302.70	304.70	2.00				2K	32	MON ALT/RNG SYMBOLS
304.70	306.10	1.40				2H	21	PRESS FPA SEL MODE SW
306.10	306.87	6.77				2 H	22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED
310.00						090048	FL 10 SCAN	NT INSTRUMENT -A2
310.00	\$40.00	30.00				21	02	MON PITCH ATTITUDE
310.00	340.00	\$0.00				\$ L	02	MON VERTICAL SPEED
310.00	\$40.00	\$0.00				3.4	10	MONITOR AIRSPEED
\$10.00	\$40.00	30.00				2K	14	MON MAP VIDEO
310.00	340.00	30.00				2K	48	MON STRAIGHT TREND VECTOR SYMBOL
\$10.00	\$40.00	30.00				2 K	33	MON CURVED TREND

B.16 TCAS ENCOUNTER—ADVANCED FLIGHT DECK Nonflying Pilot

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SINCE MIS	SION START END	ACTIVITY TIME	EVENT/PROCEDURE TASK
195.00	LAD		180091 HANDOFF TO AT INAL Approach Com: _ler
195.00	207.00	12.00	1P18XX91 H S15,TURN RT HDQ270 DESCHD AND MAINTAIN 8000 FT,CONTACT ATL APPR ON 127,25.
207.00	214.00	7.00	1A 25 ACTUATE COMM 2 PUSH- TO-TALK SW
207.00	214.00	7.00	1P18TY91 \$15,ROGER,HDQ 270, Maintain 6000,APPR On 127.25.
200.00			180081 ENTER/ARM NEW ALT IN MCP
200.00			18BL02 BEGIN TURN TO DOWN- Wind Leg
205.00			180082 ENTER NEW HEADING IN MCP
210.00			16BLO3 DESCEND THRU 11000.
210.00			0900\$1 FLIGHT INSTRUMENT 8CAM -A1
219.00			180092 TUNE ATL APPROACH ON 127.25
219.00	223.88	4.88	18 01 MON VHF-2L FREQ IND
219.00	221.90	2.90	1B 02 SET VHF-2L FREQ- Whole No.8
221.88	223.86	1.00	18 OS SET VMF-2L FREQ - Fractions
226.00			180093 CONTACT ATL APPROACH ON 127.25
228.00	227.40	1.49	18 OS SET VNF-2 COMM TFR SW TO LEFT
228.40	231.90	3.50	1A 10 ACT PUSH-TO-TALK SW
228.40	231.90	3.50	1P10XX93 ATL APPR.MASA \$15 Descending to 6000.
231.90	235.90	4.00	1P16YY90 MASA S1S.ATL APPR, Roger.
220.00			090051 FLIGHT INSTRUMENT SCAN -A1
230.00			090051 FLIGHT INSTRUMENT SCAN -A1
240.00			18TC01 TCAS ENCOUNTER
240.00	241.80	1.60	1018ZX10 MON MASTER CAUTION AURAL ALERT 2 Concurrent Tones 300-1500 HZ.
240.00	241.00	1.00	1D16XXO3 MON MASTER CAUTION VISUAL ALERT-AMBER
240.00	295.00	58.00	SA 12 PILOT EXTERNAL Vision Scan
241.80	243.00	1.40	1TCOOD18 PRESS MASTER CAUTION SWITCH
241.80	243.00	1.40	1TC00001 MON VISUAL ALERT Display - Amber (YCAS ALERT)
244.00	247.00	3.00	1TC00002 CALL OUT-[TRAFFIC AT 1 O-CLOCK, 1200 FT BELOW, AND CLIMBING]
244.00	255.00	11.00	1TC00004 MONITOR TCAS TRAFFIC DISPLAY
252.00	255.00	3.00	1TC00022 CALL OUT-[TRAFFIC AT 1 O-CLOCK, 900 FEET BELOW, AND CLIMBING]
255.00	255.75	0.78	1D16XX04 MON MARTER WARM!NG AURAL ALERT 2 ALTERNATING TONES 400 TO 1000 HZ.
255.00	288.00	1.00	1D16XXOS MON MASTER WARNING VISUAL ALERT - RED
255.80	257.50	1.70	1TC00006 RESOLUTION ADVISORY VOICE ALERT, [TCAS CLIMB,CLIMB]
255.00	275.00	20.00	1TC00007 MON TIME CRITICAL VISUAL ALERT DISPLAY (1YSI RED EYEBROWS) CLIMB INDICATION

CHARLES FARE BUILDING BUILDING

SINCE MISSIC BEGINNING	ON START END	ACT!VITY TIME	
257.50	258.90	1.40	
259.00	202.00	3.00	
259.00	275.00	18.00	
265.00	288.00	4.00	
270.00	273.00	3.00	
278.00	288.00	10.00	
275.00	277.40	2.40	
		0.77	
277.00	277.77	0.77	
286.00	295.00	7.00	
298.00			
310.00			
340.00			
295.00	242.05	45.00	
295.00	340.00	45.00	

EVENT/PROCEDURE TASK	
1TC00019	PRESS MASTER WARNING SWITCH
11000024	CALL OUT-[TRAFFIC AT 1 O-CLOCK, 700 FEET BELOW, AND CLIMBING]
1700004	MONITOR TCAS TRAFFIC DISPLAY
1700027	MON CALL OUT-[OK, WE ARE CLIMBING.KEEP AN EYE ON THAT GUY AND CALL APPROACH.]
1700028	CALL OUT-[OK, HE IS STILL AT 700 FEET BELOW US]
1700000	CALL ATC, [ATL APPR, MASA 515 LEVEL AT 10,800 DUE TO TCAS RA, PLEASE ADVISE]
1700011	CALL OUT - [CLEAR OF CONFLICTING TRAFFIC]
3H 02	MON CORR BARO ALT
1700020	[ROGER 515, RADAR SHOWS HEGATIVE TRAF FIC.CONTINUE DESCENT AS CLEARED.
IN P	NGAGE AUTOPILOT REVIOUSLY SELEC- AUTO-FLIGHT S (FPA,TKA,CAS)
090048 FLIG SCAN	HT INSTRUMENT -A2
090048 FLIS	HT INSTRUMENT -A2
00EV08 C/P	EXT VIS SCAN
BA 12	PILOT EXTERNAL

APPENDIX C TIMELINE ANALYSIS DETAILED RESULTS

APPENDIX C

Results are presented for all the scenarios in terms of histograms defining the time history of relevant activity channels, as well as summary tables to aid in comparative analysis.

The summary tables are shown in Tables C-1 through C-16, and describe the average tasking for all activity channels for each crew member and scenario. The tasking is in terms of percent channel utilization and is averaged over the entire scenario. The averages for VHF voice and data link scenarios are shown, and then the relative impacts due to data link are indicated. Note that a percent increase is additive in these comparisons. These summary tables are placed at the end of this appendix.

The histograms are illustrated in Figures C-1 through C-92, and are also placed at the end of this appendix. The horizontal time axis in these figures correlates with the time reference in Appendix B for the detailed mission scenarios, so that significant tasking impacts can be correlated with the corresponding scenario events.

C.1 NORMAL ILS APPROACH

C.1.1 Conventional Flight Deck Crew Tasking

This section presents TLA results for both crew members in a conventional flight deck operating in both a current NAS and a data link environment.

Significant results are that the nonflying pilot (copilot in the right seat) crew tasking is more substantially affected by data link implementation than is the flying pilot (pilot in the left seat).

Data link increases in internal vision are 9% greater for copilot than pilot. Data link decreases in auditory tasking are 5% greater for copilot than pilot. Other channel variations combine to produce negligible changes in the overall weighted average tasking for both pilot and copilot.

C.1.1.1 Flying Pilot

The pilot tasking channels impacted significantly by data link implementation, when channel activity is averaged over the entire scenario, are internal vision and auditory channels. As seen in Table C-1, the 1.55% increase in internal vision is largely balanced by the 1.90% decrease in auditory tasking. As a result, the weighted channel average tasking is not significantly affected. To gain insight into why increases and decreases have occurred, channel tasking is analyzed as a function of scenario elapsed time, allowing correlation with specific procedures and tasks. The cognitive channel is also investigated to see if any effects are masked by the averaging process in Table C-1.

C.1.1.1.1 Internal Vision Channel

Figure C-1 indicates internal vision channel task loading for both current NAS and data link environments. As shown, the use of data link results in tasking increases during the following key scenario events.

- 1. ATC vector to downwind heading
- 2. ATC altitude stepdown clearance
- 3. Monitor ATIS

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- 4. ATC vector to base heading
- 5. ATC ILS approach clearance
- 6. Handoff to ATL tower and landing clearance
- 7. Handoff to ATL ground control
- 8. Taxi clearance

The time for these events can be used to identify specific procedures causing the channel increases. The detailed mission scenario, Appendix B, indicates that task 1D16XX02 is the cause of each channel increase. This task is labeled "Monitor Communication Management Display [Mode-S Uplink Pending] Amber."

C.1.1.1.2 Cognitive Channel

Figure C-2 compares cognitive channel tasking for current NAS and data link concepts. Key scenario events and their effects are as follows.

- 9. Handoff from ATL center-slight decrease
- 10. Handoff to ATL final approach—slight decrease
- 11. Monitor ATIS-decrease
- 12. Landing clearance—slight increase
- 13. Taxi clearance—slight increase

It can be seen by reference to the detailed mission scenario that the slight tasking decreases are due to the pilot not having to monitor ATC audio with the data link concept. Similarly, the slight tasking increases are due to pilot monitoring of the communication management display annunciating "UP-LINK PENDING" as in the previous internal vision channel tasking discussion. The somewhat greater tasking decrease is due to the pilot not having to listen to the ATIS audio with the data link concept.

C.1.1.1.3 Auditory Channel

Pilot auditory channel tasking is impacted the most by data link implementation, as shown by Figure C-3. As could be expected, the largest tasking decrease is due to the ATIS monitoring scenario event. The data link concept eliminates approximately 30 sec of audio monitoring. This tasking decrease is predicated on an assumption that the copilot deemed it unnecessary to relay any information to the pilot, an assumption that would certainly not always be correct.

The handoff from ATL center correlates with a tasking decrease due to the nature of a data link handoff requiring only the copilot to select the new VHF comm frequency for monitoring. The other tasking effects are largely due to shifting the pilot auditory monitoring from listening to ATC on the VHF radio to listening to the copilot read out loud the uplink as he reads it on the CDU.

C.1.1.1.4 Weighted Channel Average

Figure C-4 illustrates the combined effect of the individual channel tasking variations due to data link implementation. Scenario events associated with ATC handoffs correlate with slight tasking decreases, while events associated with ATC clearances correlate with slight tasking increases. The ATIS monitoring event correlates with a more significant tasking decrease.

C.1.1.2 Nonflying Pilot

The nonflying pilot (copilot) tasking is more extensively impacted by data link implementation than is the flying pilot tasking. Table C-2 shows a 1.94% decrease in external vision, a 10.57% increase in internal vision, a 3.49% increase in left hand, a 4.79% decrease in right hand, a 0.06% increase in cognitive, a 7.34% decrease in auditory, a 1.08% increase in verbal, and a 0.53% increase in weighted channel average values of activity.

C.1.1.2.1 External Vision

Figure C-5 indicates external vision channel task loading for both current NAS and data link environments. The use of data link results in a tasking decrease during the ATIS monitoring event. This decrease results from the requirement to not exceed 100% total vision (internal + external) during a time when the internal vision channel is heavily loaded. Normally, a reduction in task loading is considered advantageous. In this case, however, an outside visual scan is an important monitoring task and a reduction in scan would be undesirable. It should be noted, however, that due to programming limitations the amount of external vision tasking reduction is probably unrealistically high. Another slight tasking decrease occurs during the taxi clearance scenario event. This coincides with an internal vision tasking increase due to the copilot reading the uplinked taxi clearance.

C.1.1.2.2 Internal Vision

Figure C-6 indicates internal vision channel loading for current NAS and data link environments. Significant tasking increases occur during all but the first of the key scenario events. The highest tasking increase is correlated with the ATC ILS approach clearance event. This is due to the longer and more complicated uplink message requiring more time for the copilot to read. The ATIS and landing clearance events, which require reading lengthy messages, also correlate with large tasking increases.

C.1.1.2.3 Left Hand

Figure C-7 shows the increased left hand channel loading due to data link implementation. A tasking increase is indicated for every scenario key event. The detailed mission scenario shows two copilot left hand channel interactions for each data link transaction; initially to select the pending uplink (Task 1X160001) for display, and then to send the confirming downlink (Task 1X160041). The two highest tasking increases occur during handoff events to ATL approach and to ATL ground control. These events are distinguished from the other key scenario events in that the left hand channel is utilized to select a new frequency on the VHF comm radio panel, in addition to the other data link tasks.

C.1.1.2.4 Right Hand

Figure C-8 indicates the tasking effects due to data link implementation. Right hand tasking is decreased during all the key scenario events except the ATIS event which does not involve that channel. The right hand channel is utilized in VHF voice communications to key the microphone using the control wheel push-to talk switch while transmitting. The data link concept eliminates the need for this

task, producing the tasking decreases. Note that if the pilot (sitting in the left seat) were handling communications, this tasking decrease would be applied to the left hand channel.

C.1.1.2.5 Cognitive

Figure C-9 illustrates the cognitive channel loading effects due to data link implementation. The tasking is decreased for the scenario events involving ATC handoffs, since there is no requirement to call the new ATC facility using data link. Tasking is increased during ATC clearance events, reflecting the procedure where the copilot reads the uplink message out loud to the pilot.

C.1.1.2.6 Auditory

Figure C-10 shows the expected data link effect of significant auditory tasking decreases during all the key scenario events. The ATIS and ILS approach clearance events correlate with the highest tasking decreases since the ATC messages are the longest.

C.1.1.2.7 Verbal

Figure C-11 indicates an unexpected verbal tasking effect of data link implementation. The ATC vector, ILS approach clearance, landing clearance, and taxi clearance events correlate with verbal tasking increases. Examination of the detailed mission scenario reveals that the copilot is spending more time reading the uplink message out loud to the pilot than he saves by not having to read back the clearance to ATC on the VHF radio. This is particularly evident during the ILS approach clearance event. Tasking decreases are indicated during ATC handoffs, as expected.

C.1.1.2.8 Weighted Channel Average

Figure C-12 illustrates the combined effect of the individual channel tasking variations due to data link implementation. As was the case for the pilot, tasking decreases correlate with ATC handoffs and the ATIS scenario event. Tasking increases correlate with ATC clearances. Overall, the magnitude of the tasking increases and decreases is greater than that for the pilot tasking comparisons.

C.1.2 Advanced Flight Deck

This section presents TLA results for both crew members in an advanced flight deck operating in both a current NAS and a data link environment.

It may be significant to note that results for the advanced flight deck closely parallel those for the conventional flight deck.

C.1.2.1 Flying Pilot

TLA results for the flying pilot in the advanced flight deck are similar to those for the conventional flight deck. Taking into account the overall tasking reductions due to increased automation in the advanced flight deck, the channel tasking impact due to data link implementation is very similar to the trends noted for the conventional flight deck. As listed in Table C-3, when averaged over the entire scenario, the only channels significantly affected by data link are internal vision and auditory. As shown, the 1.71% increase in internal vision tasking is largely balanced by the 1.91% decrease in auditory tasking, resulting in an insignificant change in the weighted channel average tasking.

C.1.2.1.1 Internal Vision

Figure C-13 indicates comparative internal vision task loading for current NAS and data link environments. The advanced flight deck results indicate tasking increases during the same key scenario events as in the conventional flight deck analysis. The detailed mission scenario indicates that the task "Monitor Information Management Display [Mode-S Uplink Pending] Amber" is the cause of each tasking increase. Note that Figure C-1 shows a peak tasking of 100% for the conventional flight deck, while Figure C-13 indicates an 80% tasking level during that same event. This event, "Handoff to ATL tower and landing clearance," coincides with crossing the outer marker and intercepting the glideslope. The lower task loading at this point in the advanced flight deck scenario is due to the advanced guidance and display technology utilized.

C.1.2.1.2 Auditory

Pilot auditory tasking in the advanced flight deck is affected by data link implementation in the same way that auditory tasking is affected in the conventional flight deck. As shown in Figure C-14, which is very similar to Figure C-3 for the conventional flight deck, the largest tasking decrease is due to the ATIS monitoring event. The ATL center handoff correlates with another tasking decrease, as in the case of the conventional flight deck.

C.1.2.1.3 Weighted Channel Average

Figure C-15 illustrates that the net effect on pilot tasking is similar to that for the conventional flight deck. ATC handoffs correlate with slight tasking decreases, while ATC clearances correlate with slight tasking increases. The ATIS scenario event correlates with a more significant tasking decrease.

C.1.2.2 Nonflying Pilot

Nonflying pilot (copilot) tasking effects in the advanced flight deck due to data link are very similar to the effects noted for the conventional flight deck. Table C-4 indicates a 1.94% decrease in external vision, a 10.57% increase in internal vision, a 3.49% increase in left hand, a 4.79% decrease in right hand, a 0.06% increase in cognitive, a 7.35% decrease in auditory, a 1.08% increase in verbal, and a 0.53% increase in weighted channel average values of activity.

C.1.2.2.1 External Vision

External vision tasking effects due to data link implementation are similar to those for the conventional flight deck, as shown in Figure C-16. The tasking reductions are slightly less than for the conventional flight deck, due to minor differences in the current NAS tasking.

C.1.2.2.2 Internal Vision

Figure C-17 shows that internal vision tasking effects are very similar to the conventional flight deck, except for the portion correlated with the handoff to ATL ground control and the taxi clearance. The advanced flight deck required a higher level of tasking during these events in the current NAS. This was due to copilot monitoring of the EADI and TV video during touchdown and rollout, while the AGCS performed an autoland. When combined with the increased loading due to the data link handoff to ATL ground and the taxi clearance, the internal vision channel reached a peak loading of approximately 130%.

C.1.2.2.3 Left Hand

Figure C-18 shows that the tasking for this channel is identical to those for the conventional flight deck. This is expected since the data link concept for the copilot operates in a manner independent of whether it is an advanced or conventional flight deck.

C.1.2.2.4 Right Hand

Figure C-19 indicates that the tasking effects due to data link are identical to those for the conventional flight deck, as in the case of left hand channel tasking.

C.1.2.2.5 Cognitive

Figure C-20 indicates that tasking effects are similar to those for the conventional flight deck.

C.1.2.2.6 Auditory

Figure C-21 shows tasking effects identical to those for the conventional flight deck.

C.1.2.2.7 Verbal

Figure C-22 shows tasking effects identical to those for the conventional flight deck.

C.1.2.2.8 Weighted Channel Average

Figure C-23 indicates tasking effects similar to those for the conventional flight deck.

C.2 ILS APPROACH WITH WEATHER DEVIATION

C.2.1 Conventional Flight Deck

C.2.1.1 Flying Pilot

The pilot tasking channels impacted significantly by data link implementation, when channel activity is averaged over the entire scenario, are internal vision and auditory channels. As seen in Table C-5, the 1.75% increase in internal vision is balanced by the 1.94% decrease in auditory tasking. As a result, the weighted average tasking is not significantly affected. These results are similar to the normal ILS approach scenario.

C.2.1.1.1 Internal Vision Channel

The data link implementation had a slightly more adverse impact on internal vision when the overall mission complexity was increased with a weather deviation. As shown in Figure C-24, the key scenario event of requesting a new heading from ATC corresponds with a tasking increase due to data link. This is due to the communications management display monitoring task imposed by the data link system. Other internal vision tasking increases are similar to the normal ILS scenario.

C.2.1.1.2 Auditory Channel

Data link impact on auditory tasking, as shown in Figure C-25, is similar to that for the normal ILS scenario. The addition of the weather deviation tasks resulted in no net change in tasking decrease due

to data link, since the elimination of pilot monitoring of ATC is replaced with pilot monitoring of the copilot.

C.2.1.1.3 Weighted Channel Average

Figure C-26 indicates that the weighted channel increases (resulting from internal vision tasking increases) are largely balanced by the weighted channel decreases (resulting from the auditive tasking decreases).

C.2.1.2 Nonflying Pilot

The data link impact on copilot tasking in the weather deviation scenario is similar but more pronounced than that in the normal ILS scenario. Table C-6 lists the average values of channel tasking for the weather deviation scenario. Comparison with Table C-2 for the normal ILS approach shows that the increased mission complexity resulted in data link implementation more adversely affecting internal vision (approximately 3% greater increase), left hand (approximately 1.5% greater increase), and the weighted channel average (0.3% greater increase). Other channels were more favorably impacted by data link implementation due to increased mission complexity. The right hand average tasking decrease was 1.4% greater, while the average auditory tasking decrease was 1.2% greater in the weather deviation scenario.

C.2.1.2.1 Internal Vision

Figure C-27 indicates internal vision task loading for both current NAS and data link implementation. As shown, the task loading is identical to that of Figure C-6 for the normal ILS scenario except for the key scenario events associated with the weather deviation. A large increase in internal vision tasking is evident at that time, due to the copilot interacting with the CDU to read uplinks and send downlinks.

C.2.1.2.2 Left Hand

Figure C-28 indicates the left hand tasking increases due to data link implementation. Comparison with Figure C-7 indicates a slight tasking increase corresponding to the weather deviation event that does not appear in the normal ILS scenario. This is due to the extra CDU key pushes required to request a new heading around the weather.

C.2.1.2.3 Right Hand

Figure C-29 indicates the right hand tasking decreases due to data link. Comparison with Figure C-8 indicates that the extra ATC communications in the weather deviation scenario requiring right hand activity to key the microphone is eliminated by data link implementation.

C.2.1.2.4 Cognitive

Figure C-30 indicates data link impact on cognitive tasking. Slight tasking increases are balanced by slight tasking decreases during the weather deviation event.

C.2.1.2.5 Auditory

Figure C-31 indicates the auditory tasking decreases due to data link. The tasking reductions shown during the weather deviation event are similar to those for other ATC clearances.

C.2.1.2.6 Verbal

Figure C-32 indicates the verbal tasking decreases due to data link. The weather deviation corresponds with a slight tasking decrease as shown.

C.2.1.2.7 Weighted Channel Average

Figure C-33 indicates the weighted channel average tasking impact due to data link. The weather deviation corresponds with an initial tasking increase due to increased visual tasking, followed by a tasking decrease due to reduced auditive tasking. A minor net change to the weighted average tasking is the result.

C.2.2 Advanced Flight Deck

C.2.2.1 Flying Pilot

Advanced flight deck pilot tasking channels impacted by data link implementation in the weather deviation scenario were similar to those impacts noted in the normal ILS scenario, with the addition of a cognitive tasking increase due to data link. When channel activity is averaged over the entire scenario, as shown in Table C-7, internal vision (3.5% increase) and cognitive (1.6% increase) tasking were increased due to data link. Auditory tasking was decreased by 1.95%. As a result, weighted channel average tasking increased by 0.8%.

C.2.2.1.1 Internal Vision Channel

Figure C-34 indicates comparative internal vision tasking for current NAS and data link environments in the ILS weather deviation scenario. As shown, the scenario events associated with the weather deviation correlate with a 40% overload of the internal vision channel in the data link implementation case. Study of the detailed mission scenario, Appendix B, indicates that the pilot tasks contributing to this overload are Task 090048—Flight Instrument Scan, Task 18DL81—Arm New DL MCP Altitude, and Task 18DL82—Engage data linked Heading in MCP. Comparison with the mission scenario for the current NAS indicates that the instrument scan task was replaced by a shorter instrument scan at an earlier time, helping to prevent the tasking overload in the current NAS scenario.

C.2.2.1.2 Cognitive Channel

Figure C-35 indicates comparative cognitive channel tasking. A tasking increase due to data link is evident during the weather deviation events. Review of the mission scenario indicates that this is due to the instrument scan coinciding with the heading and altitude select tasks on the mode control panel.

C.2.2.1.3 Right Hand Channel

Figure C-36 indicates comparative right hand tasking. A slight tasking decrease due to data link is shown during scenario events which correspond to pilot interaction with the mode control panel.

C.2.2.1.4 Auditory

Figure C-37 indicates auditory comparisons. As shown, the trend established in the normal ILS scenario is continued where the initial tasking decrease is compensated by a similar tasking increase, due to replacing pilot monitoring of ATC with pilot monitoring of the copilot.

C.2.2.1.5 Weighted Channel Average

Figure C-38 illustrates the comparative weighted channel average tasking for the weather deviation scenario. As shown, a significant tasking increase is indicated for the initial portion of the weather deviation.

C.2.2.2 Nonflying Pilot

Advanced flight deck copilot tasking channels were impacted by data link implementation in the weather deviation scenario in a manner very similar to that for the conventional flight deck, as discussed in Section 7.2.1.2. When channel activity is averaged over the entire scenario, as shown in Table C-8, the most significant tasking impacts are in internal vision (13.33% increase), left hand (5.07% increase), right hand (6.17% decrease), auditory (8.55% decrease), and a weighted average tasking increase of 1.03%.

Comparison with data from Table C-4 for the advanced flight deck copilot tasking in the normal ILS scenario indicates that the increased mission complexity of the weather deviation scenario served to amplify the impact of data link. Internal vision and left hand tasking was more adversely affected by data link in the weather deviation scenario. Conversely, right hand and auditory tasking was more favorably impacted. These trends are identical to those described in section C.2.1.2.

C.2.2.2.1 Internal Vision

Figure C-39 indicates internal vision tasking comparisons for the weather deviation scenario. As shown, tasking increases due to data link are identical to those of Figure C-17 for the normal LS scenario, except for the key scenario events associated with the weather deviation. A large increase in internal vision tasking is evident at that time, coinciding with copilot interaction with the CDU to read uplinks and send downlinks.

C.2.2.2.2 Left Hand

Figure C-40 indicates left hand tasking comparisons. Comparison with Figure C-7 for the normal ILS scenario shows identical tasking increases due to data link except for weather deviation events. CDU key pushes due to uplink acknowledgments and downlink requests are responsible for this. This situation is similar to that for the conventional flight deck copilot tasking.

C.2.2.2.3 Right Hand

Figure C-41 compares data link and current NAS right hand tasking in the weather deviation scenario. A tasking reduction coinciding with weather deviation communications is due to the elimination of microphone keying tasks with data link.

C.2.2.2.4 Auditory

Figure C-42 indicates auditory tasking decreases coinciding with weather deviation events. The extra communications required for weather deviation produces a corresponding task reduction for data link implementation, as compared to the tasking comparisons in Figure C-21 for the normal ILS scenario.

C.2.2.2.5 Weighted Channel Average

As in the conventional flight deck case for the weather deviation scenario, an initial tasking increase due to increased visual tasking is followed by a tasking decrease due to reduced auditive tasking. A minor net increase in the weighted average tasking is the result. This is shown in Figure C-43.

C.3 ILS MISSED APPROACH WITH REROUTE

This section presents TLA results based on a higher level of mission complexity than that achieved for the normal ILS scenario. This more complex scenario incorporates a pilot initiated missed approach and a rerouting to a holding fix.

Crew tasking analysis for this scenario was done for both current NAS (VHF voice) and data link communications. In the current NAS case, the flying pilot calls ATC requesting clearance to hold for 15 min. The nonflying pilot is retracting flaps and landing gear, and making callouts to the pilot during this time. In the data link case, the copilot (nonflying pilot) utilizes the data link to request holding. He does this at the same time as airplane reconfiguration and callouts are accomplished.

C.3.1 Conventional Flight Deck

This section presents TLA results for both crew members in a conventional flight deck operating in both a current NAS and a data link environment. Significant results are that data link implementation reduces pilot auditory and verbal tasking and that copilot verbal, left hand, and internal vision tasking are increased.

C.3.1.1 Flying Pilot

The pilot tasking channels impacted significantly by data link implementation, when channel activity is averaged over the entire scenario, are internal vision (1.22% increase), auditory (3.25% decrease), and verbal (2.7% decrease). These changes, as seen in Table C-9, combine to produce a net weighted average tasking decrease of 1.46%.

C.3.1.1.1 Internal Vision

Figure C-44 indicates comparative internal vision task loading for current NAS and data link environments. As seen in the detailed mission scenario, Appendix B, the missed approach scenario is identical to the normal ILS scenario up to approximately 865 sec elapsed time. As seen in Figure C-44, the use of data link results in two internal vision pilot tasking increases associated with the missed approach. The first tasking increase is due to the visual annunciation of a pending uplink (Task 1D16XX09). This uplink is read aloud by the copilot and advises that the preceding airplane encountered extreme windshear. The second tasking increase is due to visual annunciation of another uplink pending (Task 1D16XX02), which is read aloud by the copilot and provides clearance to a holding fix.

C.3.1.1.2 Auditory

Figure C-45 indicates comparative auditory task loading for current NAS and data link environments. An initial tasking decrease is followed by a tasking increase due to data link implementation causing the copilot to read the windshear warning to the pilot. This trend is repeated when the missed approach and holding instructions are read aloud by the copilot in the data link implementation.

C.3.1.1.3 Verbal

Figure C-46 compares current NAS and data link verbal tasking. Tasking decreases are shown to correlate with data link implementation eliminating pilot communication with ATC, since the copilot assumes communication tasks in the data link scenario. Tasking decreases correlate with the request for missed approach (Task 1P16FB16) and the holding request.

C.3.1.1.4 Weighted Channel Average

Figure C-47 compares current NAS and data link weighted channel average tasking. Verbal and auditory tasking decreases are seen to outweigh internal vision increases, producing a net tasking decrease during the missed approach segment of the scenario.

C.3.1.2 Nonflying Pilot

The nonflying pilot (copilot) channels impacted significantly by data link implementation are internal vision (13.11% increase), left hand (4.52% increase), right hand (5.0% decrease), auditory (10.62% decrease), and verbal (3.22% increase). These effects, as seen in Table C-10, combine to produce a net weighted channel average tasking increase of 0.91%.

C.3.1.2.1 Internal Vision

Figure C-48 indicates internal vision tasking for data link and current NAS environments. A tasking overload condition is indicated due to data link during the initial portion of the missed approach segment of the scenario. This overload correlates with Procedure 16FB05, "Copilot Goaround Activities," and Procedure 15YL01, "Missed Approach Call and Request for Holding." Instrument scan and flap/gear monitoring overlap with downlink selection using the CDU, creating the overload. A tasking decrease is then indicated, followed by another tasking increase. This is due to a shift in copilot tasking based on reading the holding clearance on the CDU instead of writing down the clearance while listening to the VHF voice.

C.3.1.2.2 Left Hand

A significant tasking increase due to data link is evident in Figure C-49. This increase correlates with the copilot selecting and sending downlink messages advising of a missed approach and requesting holding.

C.3.1.2.3 Right Hand

Figure C-50 indicates comparative tasking effects for data link and VHF voice. A right hand tasking decrease due to data link is correlated with elimination of the task of writing down the ATC clearance on paper.

C.3.1.2.4 Auditory

Figure C-51 indicates comparative auditory tasking for data link and VHF voice. A significant auditory tasking decrease is evident where the ATC clearance to the holding fix is uplinked on data link rather than by VHF voice.

C.3.1.2.5 Verbal

A verbal tasking increase is indicated where the copilot reads the uplinked message out loud to the pilot in the data link implementation, as seen in Figure C-52. The significant tasking increase for the copilot using data link is primarily because the pilot handles the missed approach communications in the VHF voice case.

C.3.1.2.6 Weighted Channel Average

Figure C-53 shows the overall impact of the individual tasking effects. Internal vision and left hand increases initially combine to produce an increase in the weighted channel average. Internal vision, right hand, and auditory decreases then combine to produce a decrease in the average. Internal vision and verbal tasking increases then combine to again increase the weighted channel average.

C.3.2 Advanced Flight Deck

This section presents TLA results for both crew members in an advanced flight deck operating in both a current NAS and a data link environment. Significant results are that data link implementation reduces pilot left hand and right hand, auditory, and verbal channel tasking and increases pilot internal vision tasking. Data link impact on copilot tasking is primarily a tasking reduction for right hand and auditory channels, with some tasking increase for internal vision, left hand, cognition, and verbal channels.

C.3.2.1 Flying Pilot

As shown in Table C-11, significant tasking impacts based on average scenario values due to data link are in internal vision (2.62% increase), left hand (4.95% decrease), right hand (2.11% decrease), auditory (2.92% decrease), and verbal (2.53% decrease). When combined in a weighted channel average, a 1.24% net tasking decrease is indicated.

C.3.2.1.1 Internal Vision

Figure C-54 indicates comparative internal vision task loading in the advanced flight deck for current NAS and data link environments. The first two tasking increases correlate with monitoring of the information management display, Task 1D16XX09, which annunciates the uplinked windshear advisory and clearance to the holding fix. The remaining tasking increases correlate with monitoring of the FMC route update on the map display of the EHSI.

C.3.2.1.2 Left Hand

Figure C-55 indicates a significant reduction in pilot left hand tasking due to data link. Examination of the mission scenario, Appendix B, reveals that the new route to the holding fix must be manually input into the FMC by the copilot in the current NAS case, while the data link implementation allows the new route to be automatically transferred into the FMC. The decreased time needed to engage the new route in the FMC means less manual flight tasking for the pilot, producing this tasking decrease.

C.3.2.1.3 Right Hand

Figure C-56 indicates a tasking decrease for the right hand which is of a similar nature to that for the left hand tasking previously discussed. The lesser magnitude of tasking is indicative of throttle control for the right hand, as opposed to left hand for the control wheel.

C.3.2.1.4 Auditory

The alternating auditory decreases and increases shown in Figure C-57 are due to data link implementation shifting the pilot's auditive tasking from monitoring ATC on VHF voice to monitoring the copilot callouts of the uplinks.

C.3.2.1.5 Verbal

Figure C-58 indicates verbal tasking decreases provided by data link, shifting the task of calling ATC from the pilot using voice to the copilot using the data link CDU.

C.3.2.1.6 Weighted Channel Average

Figure C-59 indicates data link impact on weighted channel average tasking. Auditory and verbal tasking decreases outweigh internal vision tasking increases in the initial portion of the missed approach segment, producing a net weighted channel decrease. Left and right hand tasking decreases in the latter portion of the scenario continue the net tasking decrease.

C.3.2.2 Nonflying Pilot

As shown in Table C-12, significant tasking impacts due to data link, based on average scenario values, are in internal vision (8.9% increase), left hand (4.2% increase), right hand (10.3% decrease), cognition (2.0% increase), auditory (9.95% decrease), and verbal (3.15% increase). When combined in a weighted channel average, a net 0.29% tasking increase is indicated.

C.3.2.2.1 Internal Vision

Figure C-60 indicates comparative internal vision task loading in the advanced flight deck for current NAS and data link environments. A tasking overload condition is indicated due to data link during the initial portion of the missed approach segment of the scenario. As in the comparative task loading for the conventional flight deck, this overload correlates with Procedure 16FB05, "Copilot Goaround Activities," and Procedure 16YL01, "Missed Approach Call and Request for Holding." Instrument scan and flap/gear monitoring overlap with downlink selection using the CDU, creating the overload. A tasking decrease is then indicated, correlating with the elimination of the copilot writing down the clearance on paper. A second tasking decrease is then indicated, correlating with the automatic transfer of the new route clearance to the FMC. The data link implementation thus eliminates the copilot tasks of creating and entering a DIRECT-TO waypoint with the FMC CDU.

C.3.2.2.2 Left Hand

Figure C-61 indicates a significant tasking increase due to data link, which correlates with the copilot selecting and sending downlink messages advising of a missed approach and requesting holding. This effect is similar to that for the conventional flight deck.

C.3.2.2.3 Right Hand

Figure C-62 indicates a significant tasking decrease due to data link implementation. This tasking decrease is greater than that for the conventional flight deck which has no capability for lateral navigation without an FMC. The advanced flight deck in the VHF voice implementation incorporates a current technology type of FMC requiring manual route modifications via the CDU keypad. The data link implementation in the advanced flight deck, however, permits route modifications to be automatically

transferred from the data link system to the FMC, eliminating manual crew interface with the CDU. This produces the significant right hand tasking decrease as shown.

C.3.2.2.4 Cognition

Figure C-63 indicates comparative cognitive task loading. A large tasking increase is indicated due to data link at the end of the scenario. This is due to the fact that the VHF voice implementation requires the copilot to enter data into the CDU to modify the route. In the data link implementation, this task is eliminated, opening up a time window for the copilot to resume a scan of the instrument panel. The detailed mission scenario, Appendix B, shows that Procedure 180073, "Flight Instrument Scan," is tasked for the last 40 sec of the scenario in the advanced flight deck. This scan is at a higher level of cognitive loading than the CDU data entry in the conventional flight deck, producing a somewhat arbitrary tasking increase for the data link implementation.

C.3.2.2.5 Auditory

Figure C-64 indicates comparative auditory tasking. A significant tasking decrease, similar to that for the conventional flight deck, is evident where the windshear advisory and clearance to the holding fix is uplinked on data link instead of by VHF voice.

C.3.2.2.6 Verbal

Figure C-65 shows comparative verbal tasking for data link and VHF voice. As in the conventional flight deck case, two significant verbal tasking increases occur due to data link implementation requiring the copilot to read the uplinked messages to the pilot. The first increase correlates with the windshear advisory uplink and the second increase with the clearance to the holding fix.

C.3.2.2.7 Weighted Channel Average

Figure C-66 shows the overall impact of the individual tasking effects. Internal vision, left hand, and verbal tasking increases outweigh auditory tasking decreases to produce a net tasking decrease during the initial portion of the missed approach segment of the scenario. Internal vision, right hand, and auditory tasking decreases then combine to produce a net tasking decrease. A smaller net tasking increase is then produced primarily by increased verbal tasking, followed by a net decrease and then a net increase due to right hand and cognitive effects, respectively.

C.4 ILS APPROACH WITH TCAS ENCOUNTER

This section compares crew tasking based on a scenario having an evasive collision avoidance maneuver to crew tasking based on a normal ILS approach. The TLA results previously discussed in section C.1 are utilized as the baseline for comparison to the TCAS encounter tasking results. The rationale for this comparison is that previous TCAS research has disclosed the probability of a significant false alarm rate. Were such a false alarm to occur, the actual crew tasking increase would be in relation to the nominal crew tasking resulting from a scenario without any ATC intervention or other abnormalities. It should be noted that both scenarios utilize VHF voice communications, since TCAS implementation does not require a data link for pilot/controller communication.

C.4.1 Conventional Flight Deck

This section presents TLA results for both crew members in two conventional flight deck implementations; one which includes TCAS and one which excludes TCAS. The pilot tasking results which are most

significantly increased due to TCAS implementation are external vision, left hand, and auditory channels. Significant copilot tasking results increased due to TCAS are internal vision, cognition, and verbal channels.

C.4.1.1 Flying Pilot

As shown in Table C-13, tasking effects due to TCAS, which are based on average scenario values, are in external vision (2.3% increase), internal vision (0.85% increase), left hand (3.5% increase), right hand (1.5% increase), cognition (0.82% increase), and auditory (2.5% increase) tasking. When combined as a weighted channel average, a 2.03% tasking increase is indicated.

C.4.1.1.1 External Vision

Figure C-67 indicates comparative external vision tasking for a nominal ILS approach and a TCAS encounter. As seen in the figure and by reference to the detailed mission scenario in Appendix B, a large tasking increase is correlated with a pilot external vision scan. This scan begins after the TCAS caution alert which annunciates a traffic advisory, and continues through the resolution advisory until clear of traffic.

C.4.1.1.2 Internal Vision

Figure C-68 indicates comparative internal vision tasking for the nominal ILS approach and the TCAS encounter. This increase begins with the master caution visual alert annunciating the TCAS traffic advisory. Pilot monitoring of the TCAS traffic display then dominates the internal vision channel until annunciation of the resolution advisory, at which time the time critical climb warning on the IVSI is monitored.

C.4.1.1.3 Left Hand

Figure C-69 indicates the left hand tasking effects due to TCAS. The tasking increase shown correlates with Task 4A 29, "Actuate Flight Controls to Change Altitude," which occurs shortly after annunciation of the resolution advisory and continues until clear of traffic and the autopilot is re-engaged.

C.4.1.1.4 Right Hand

Figure C-70 indicates right hand tasking effects due to TCAS. Right hand tasking increases coincide with left hand increases due to Task 4A 29, although at a lower level. Task 4B 03, "Actuate Both Throttles," also contributes to this loading.

C.4.1.1.5 Cognitive

Figure C-71 indicates cognitive tasking effects due to TCAS. The tasking increase shown correlates with the TCAS resolution advisory and a pilot judgment task where the decision is made to respond to the resolution advisory. IVSI monitoring and TCAS traffic display monitoring also contribute to this tasking.

C.4.1.1.6 Auditory

Figure C-72 indicates auditory tasking increases due to TCAS. The highest tasking increase occurs near the resolution advisory when several copilot callouts are monitored as the copilot advises of the intruder's relative bearing and altitude. Other tasking increases correlate with a copilot callout when clear of traffic and when ATC advises to continue descent.

C.4.1.1.7 Weighted Channel Average

Figure C-73 indicates the combined effect of the individual channel increases. The peak tasking increase occurs about 5 sec after beginning to respond to the TCAS time critical climb warning, while actuating the flight controls, monitoring the IVSI, visually scanning outside, and monitoring the copilot callouts.

C.4.1.2 Nonflying Pilot

As shown in Table C-14, tasking effects due to TCAS averaged over the entire scenario are in internal vision (2.25% increase), right hand (0.87% increase), cognition (1.86% increase), auditory (1.46% increase), verbal (2.37% increase), and weighted channel average (2.13% increase).

C.4.1.2.1 Internal Vision

Figure C-74 indicates a significant tasking increase due to TCAS which continues throughout the TCAS encounter. Primary tasks contributing to this tasking increase are Task 1TC00004, "Monitoring TCAS Traffic Display," and Task 1TC00007, "Monitoring Time Critical IVSI Display." Monitoring caution and warning visual alerts and the visual alert display also contribute to this tasking increase.

C.4.1.2.2 Right Hand

Figure C-75 indicates right hand tasking increases due to TCAS. This increase correlates with the copilot calling ATC to advise of the TCAS evasive maneuver.

C.4.1.2.3 Cognitive

Figure C-76 indicates a cognitive tasking increase due to TCAS which continues throughout the TCAS encounter. Primary tasks contributing to this increase are TCAS traffic display and IVSI monitoring, as in the internal vision channel.

C.4.1.2.4 Auditory

Figure C-77 indicates the auditive tasking increases due to TCAS. Aural alert and pilot callout monitoring as well as ATC monitoring creates this increase.

C.4.1.2.5 Verbal

Figure C-78 indicates verbal tasking increases due to TCAS. Callouts of intruder bearing and altitude, as well as communication with ATC, create this tasking increase.

C.4.1.2.6 Weighted Channel Average

Figure C-79 indicates the combined effect of the individual channel increases. The peak tasking increase occurs approximately 5 sec after the evasive maneuver is begun, while monitoring the TCAS traffic display, making callouts, and monitoring the IVSI.

C.4.2 Advanced Flight Deck

This section presents TLA results for both crew members in two advanced flight deck implementations; one which includes TCAS and one which excludes TCAS.

C.4.2.1 Flying Pilot

Figure C-80 through Figure C-86 indicate pilot tasking effects due to TCAS. Note that each channel tasking increase is very similar to the results of section C.4.1.1 for the conventional flight deck. These tasking increases are summarized in Table C-15.

C.4.2.2 Nonflying Pilot

Figure C-87 through Figure C-92 indicate copilot tasking effects due to TCAS. Note that each channel tasking increase is very similar to the results of section C.4.1.2 for the conventional flight deck. These tasking increases are summarized in Table C-16.

Table C-1. Impact On Average Channel Activity Due To Data Link Implementation

CONVENTIONAL FLIGHT DECK

CHANNEL	PERCENT TASK OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	8.06	8.06	0.0
INTERNAL VISION	44.46	46.01	1.55
LEFT HAND	41.12	41.12	0.0
RIGHT HAND	19.10	19.10	0.0
COGNITION	50.04	50.00	04
AUDITORY	12.37	10.47	-1.90
VERBAL	.89	.89	0.0
. WEIGHTED AVERAGE	33.63	33.53	10

Table C-2. Impact On Average Channel Activity Due To Data Link Implementation

CONVENTIONAL FLIGHT DECK

CHANNEL	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE	SCENARIO	PERCENT INCREASE (DECREASE)
EXTERNAL VISION	8.20	6.26	-1.94
INTERNAL VISION	28.23	38.80	10.57
LEFT HAND	8.75	12.24	3.49
RIGHT HAND	6.88	2.09	-4.79
COGNITION	16.25	16.31	.06
AUDITORY	9.82	2.48	-7.34
VERBAL	7.96	9.04	1.08
WEIGHTED AVERAGE	18.59	19.12	.53

Table C-3. Impact On Average Channel Activity Due To Data Link Implementation

ADVANCED FLIGHT DECK

CHANNEL	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	3.03	3.03	0.0
INTERNAL VISION	48.67	50.38	1.71
LEFT HAND	1.07	1.07	0.0
RIGHT HAND	2.92	2.85	07
COGNITION	44.79	44.70	09
AUDITORY	12.30	10.39	-1.91
VERBAL	.75	.75	0.0
WEIGHTED AVERAGE	27.63	27.56	07

Table C-4. Impact On Average Channel Activity Due To Data Link Implementation

ADVANCED FLIGHT DECK

<u>CHANNEL</u>	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	7.35	5.90	-1.45
INTERNAL VISION	28.00	38.57	10.57
LEFT HAND	8.75	12.24	3.49
RIGHT HAND	6.88	. 2.09	-4.79
COGNITION	15.54	15.70	.16
AUDITORY	9.63	2.28	-7.35
VERBAL	7.86	8.94	1.08
WEIGHTED AVERAGE	18.07	18.74	.67

Table C-5. Impact On Average Channel Activity Due To Data Link Implementation

FLYING PILOT (LEFT SEAT)

CONVENTIONAL FLIGHT DECK

CHANNEL	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE	···	PERCENT INCREASE (DECREASE)
EXTERNAL VISION	8.18	8.18	0.0
INTERNAL VISION	43.63	45.38	1.75
LEFT HAND	42.09	42.09	0.0
RIGHT HAND	19.67	19.67	0.0
COGNITION	49.47	49.45	02
AUDITORY	13.73	11.79	-1.94
VERBAL	0.89	0.89	0.0
WEIGHTED AVERAGE	33.75	33.69	06

Table C-6. Impact On Average Channel Activity Due To Data Link Implementation

CONVENTIONAL FLIGHT DECK

<u>CHANNEL</u>	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	7.84	5.90	-1.94
INTERNAL VISION	28.40	41.73	13.33
LEFT HAND	8.75	13.82	5.07
RIGHT HAND	8.26	2.09	-6.17
COGNITION	16.52	16.66	.14
AUDITORY	11.18	2.63	-8.55
VERBAL	9.37	10.20	.83
WEIGHTED AVERAGE	19.39	20.27	.88

Table C-7. Impact On Average Channel Activity Due To Data Link Implementation

ADVANCED FLIGHT DECK

CHANNEL	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	3.03	3.03	0.0
INTERNAL VISION	47.07	50.57	3.50
LEFT HAND	1.07	1.07	0.0
RIGHT HAND	2.92	2.85	07
COGNITION	43.22	44.85	1.63
AUDITORY	13.66	11.71	-1.95
VERBAL	.75	.75	0.0
WEIGHTED AVERAGE	27.18	27.97	.79

Table C-8. Impact On Average Channel Activity Due To Data Link Implementation

ADVANCED FLIGHT DECK

<u>CHANNEL</u>	PERCENT TASK OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	6.99	5.53	-1.46
INTERNAL VISION	28.17	41.50	13.33
LEFT HAND	8.75	13.82	5.07
RIGHT HAND	8.26	2.09	-6.17
COGNITION	15.81	16.05	.24
AUDITORY	10.99	2.44	-8.55
VERBAL	9.27	10.11	.84
WEIGHTED AVERAGE	18.87	19.90	1.03

Table C-9. Impact On Average Channel Activity Due To Data Link Implementation

ILS MISSED APPROACH WITH RE-ROUTE CONVENTIONAL FLIGHT DECK

CHANNEL	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	2.76	2.73	03
INTERNAL VISION	42.97	44.19	1.22
LEFT HAND	40.00	39.58	42
RIGHT HAND	18.41	18.21	20
COGNITION	47.03	46.13	90
AUDITORY	16.36	13.11	-3.25
VERBAL	4.62	1.92	-2.70
WEIGHTED AVERAGE	32.09	30.63	-1.46

Table C-10. Impact On Average Channel Activity Due To Data Link Implementation

ILS MISSED APPROACH WITH RE-ROUTE CONVENTIONAL FLIGHT DECK

CHANNEL	PERCENT TASK OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	6.92	5.03	-1.89
INTERNAL VISION	30.13	43.24	13.11
LEFT HAND	10.38	14.90	4.52
RIGHT HAND	7.52	2.52	-5.00
COGNITION	15.41	15.35	06
AUDITORY	14.03	3.41	-10.62
VERBAL	8.73	11.95	3.22
WEIGHTED AVERAGE	19.92	20.83	.91

Table C-11. Impact On Average Channel Activity Due To Data Link Implementation

ILS MISSED APPROACH WITH RE-ROUTE

ADVANCED FLIGHT DECK

<u>CHANNEL</u>	PERCENT TASK OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	.99	.99	0.0
INTERNAL VISION	47.06	49.68	2.62
LEFT HAND	10.89	5.94	-4.95
RIGHT HAND	8.15	6.04	-2.11
COGNITION	44.04	43.68	36
AUDITORY	15.31	12.39	-2.92
VERBAL	4.20	1.67	-2.53
WEIGHTED AVERAGE	29.09	27.85	-1.24

Table C-12. Impact On Average Channel Activity Due To Data Link Implementation

ILS MISSED APPROACH WITH RE-ROUTE

ADVANCED FLIGHT DECK

<u>CHANNEL</u>	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	6.76	5.27	-1.49
INTERNAL VISION	33.06	41.97	8.91
LEFT HAND	9.76	13.99	4.23
RIGHT HAND	12.71	2.40	-10.31
COGNITION	13.66	15.71	2.05
AUDITORY	12.99	3.04	-9.95
VERBAL	8.11	11.26	3.15
WEIGHTED AVERAGE	20.05	20.34	.29

Table C-13. Impact On Average Channel Activity Due To Data Link Implementation

ILS APPROACH WITH TCAS ENCOUNTER CONVENTIONAL FLIGHT DECK

CHANNEL	PERCENT TASK OVER ENTIR CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	8.06	10.39	2.33
INTERNAL VISION	44.46	45.31	.85
LEFT HAND	41.12	44.61	3.49
RIGHT HAND	19.10	20.58	1.48
COGNITION	50.04	50.86	.82
AUDITORY	12.37	14.84	2.47
VERBAL	0.89	1.28	.39
WEIGHTED AVERAGE	33.63	35.66	2.03

Table C-14. Impact On Average Channel Activity Due To Data Link Implementation

ILS APPROACH WITH TCAS ENCOUNTER

CONVENTIONAL FLIGHT DECK

CHANNEL	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE	SCENARIO	PERCENT INCREASE (DECREASE)
EXTERNAL VISION	8.20	8.45	.25
INTERNAL VISION	28.23	30.48	2.25
LEFT HAND	8.75	9.02	.27
RIGHT HAND	6.88	7.85	.97
COGNITION	16.25	18.11	1.86
AUDITORY	9.82	11.28	1.46
VERBAL	7.96	10.33	2.37
WEIGHTED AVERAGE	18.59	20.72	2.13

Table C-15. Impact On Average Channel Activity Due To Data Link Implementation

ILS APPROACH WITH TCAS ENCOUNTER

ADVANCED FLIGHT DECK

CHANNEL	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE		PERCENT INCREASE (DECREASE)
EXTERNAL VISION	3.03	5.36	2.33
INTERNAL VISION	48.67	49.52	.85
LEFT HAND	1.07	4.57	3.50
RIGHT HAND	2.92	4.72	1.80
COGNITION	44.79	45.61	.82
AUDITORY	12.30	14.77	2.47
VERBAL	.75	1.14	.39
WEIGHTED AVERAGE	27.63	29.68	2.05

Table C-16. Impact On Average Channel Activity Due To Data Link Implementation

ILS APPROACH WITH TCAS ENCOUNTER

ADVANCED FLIGHT DECK

<u>CHANNEL</u>	PERCENT TASKI OVER ENTIRE CURRENT NAS VHF VOICE	SCENARIO	PERCENT INCREASE (DECREASE)
EXTERNAL VISION	7.35	7.60	.25
INTERNAL VISION	28.00	30.25	2.25
LEFT HAND	8.75	9.02	.27
RIGHT HAND	6.88	7.85	.97
COGNITION	15.54	17.41	1.87
AUDITORY	9.63	11.09	1.46
VERBAL	7.86	10.23	2.37
WEIGHTED AVERAGE	18.07	20.20	2.13

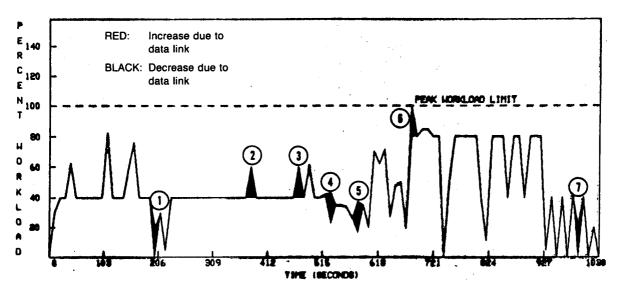


Figure C-1. Conventional Flight Deck, Pilot Tasking, Internal Vision Channel Normal ILS Approach

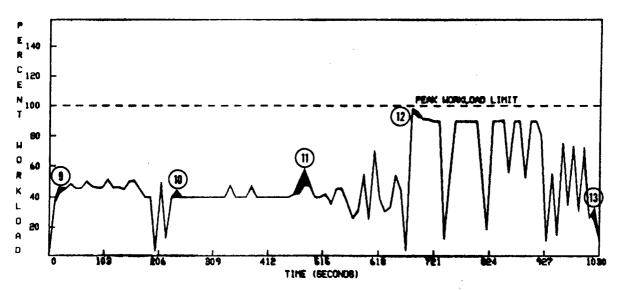


Figure C-2. Conventional Flight Deck, Pilot Tasking, Cognitive Channel Normal ILS Approach

Note: Circled numbers are referenced on pages C3 and C4.

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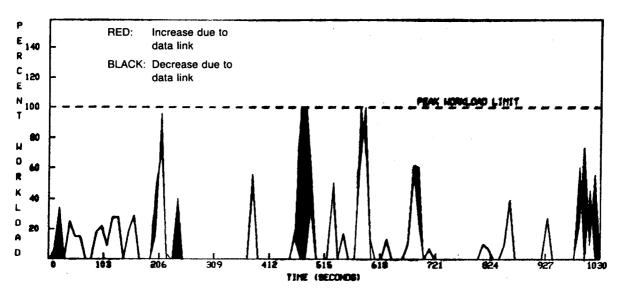


Figure C-3. Conventional Flight Deck, Pilot Tasking, Auditory Channel Normal ILS Approach

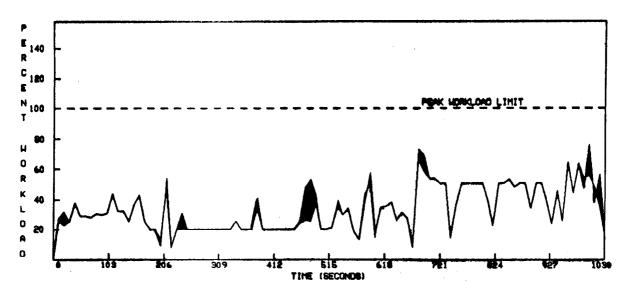


Figure C-4. Conventional Flight Deck, Pilot Tasking, Weighted Channel Average Normal ILS Approach

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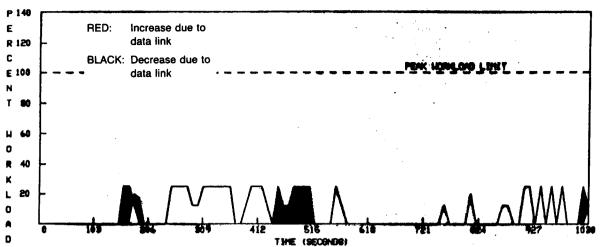


Figure C-5. Conventional Flight Deck, Copilot Tasking, External Vision Channel Normal ILS Approach

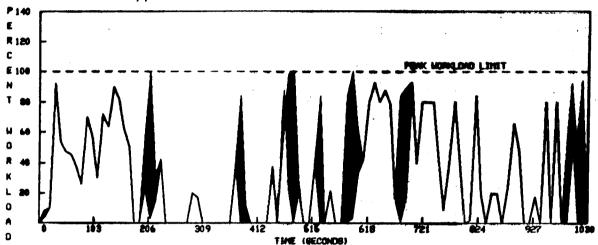


Figure C-6. Conventional Flight Deck, Copilot Tasking, Internal Vision Channel Normal ILS Approach

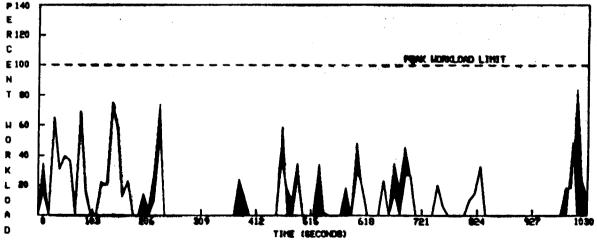


Figure C-7. Conventional Flight Deck, Copilot Tasking, Left Hand Channel Normal ILS Approach

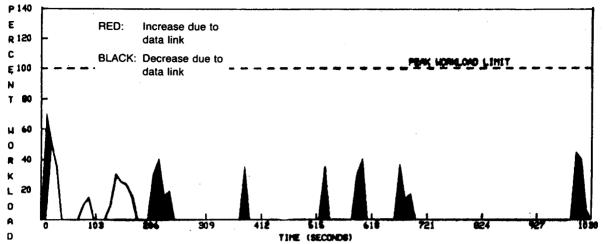


Figure C-8. Conventional Flight Deck, Copilot Tasking, Right Hand Channel Normal ILS Approach

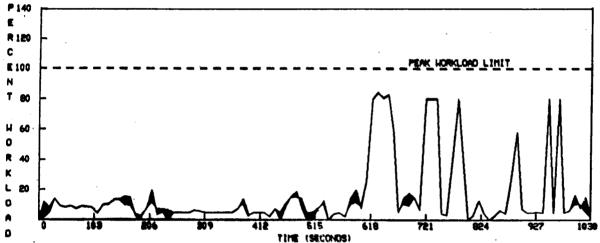


Figure C-9. Conventional Flight Deck, Copilot Tasking, Cognitive Channel Normal ILS Approach

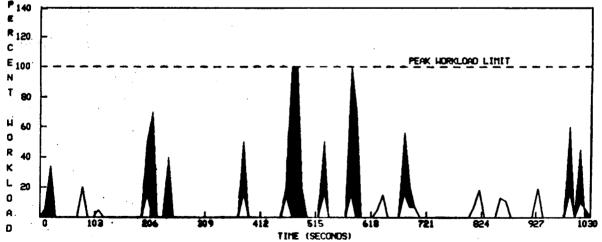


Figure C-10. Conventional Flight Deck, Copilot Tasking, Auditory Channel Normal ILS Approach

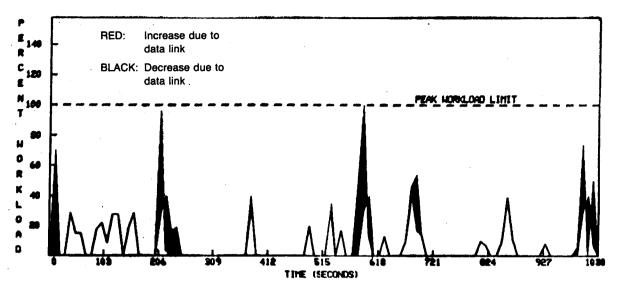


Figure C-11. Conventional Flight Deck, Copilot Tasking, Verbal Channel Normal ILS Approach

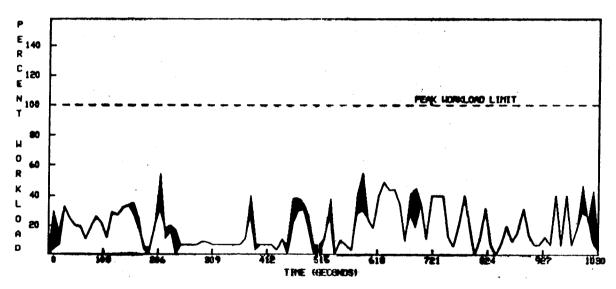


Figure C-12. Conventional Flight Deck, Copilot Tasking, Weighted Channel Average Normal ILS Approach

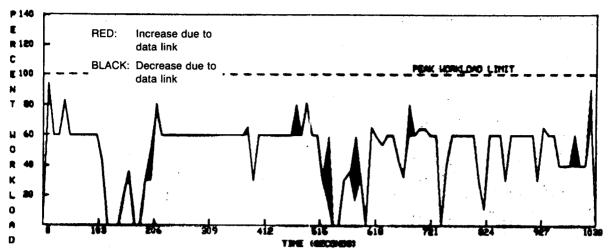


Figure C-13. Advanced Flight Deck, Pilot Tasking, Internal Vision Channel Normal ILS Approach

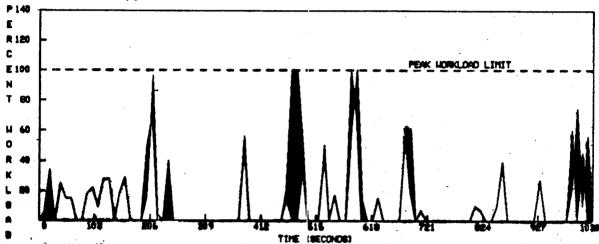


Figure C-14. Advanced Flight Deck, Pilot Tasking, Auditory Channel Normal ILS Approach

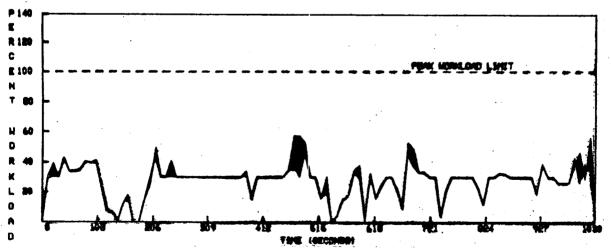


Figure C-15. Advanced Flight Deck, Pilot Tasking, Weighted Channel Average Normal ILS Approach

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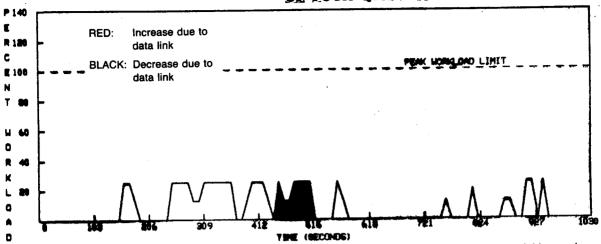


Figure C-16. Advanced Flight Deck, Copilot Tasking, External Vision Channel Normal ILS Approach

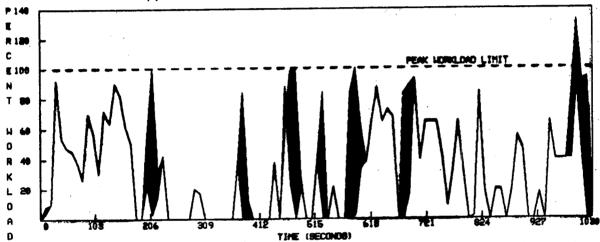


Figure C-17. Advanced Flight Deck, Copilot Tasking, Internal Vision Channel Normal ILS Approach

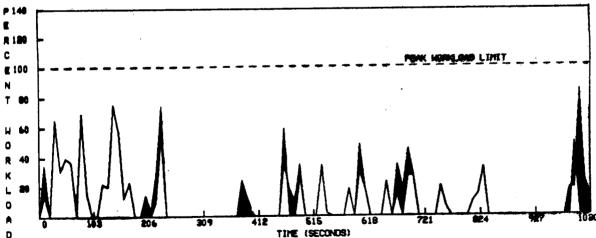


Figure C-18. Advanced Flight Deck, Copilot Tasking, Left Hand Channel Normal ILS Approach

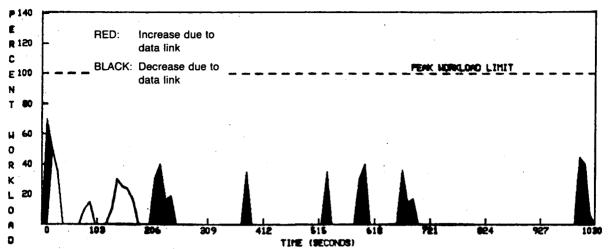


Figure C-19. Advanced Flight Deck, Copilot Tasking, Right Hand Channel Normal ILS Approach

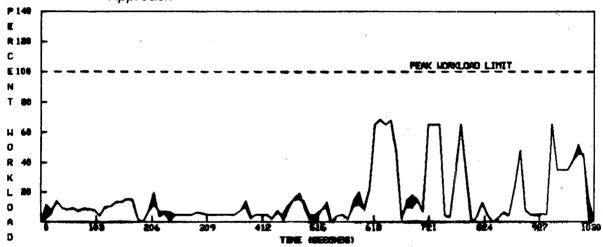


Figure C-20. Advanced Flight Deck, Copilot Tasking, Cognitive Channel Normal ILS Approach

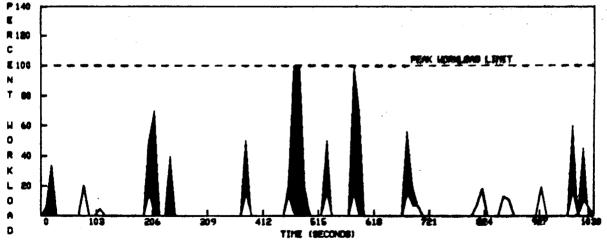


Figure C-21. Advanced Flight Deck, Copilot Tasking, Auditory Channel Normal ILS Approach

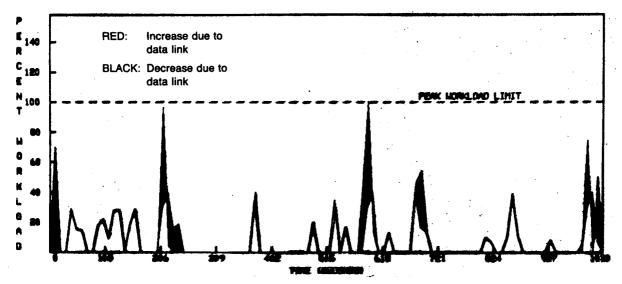


Figure C-22. Advanced Flight Deck, Copilot Tasking, Verbal Channel Normal ILS Approach

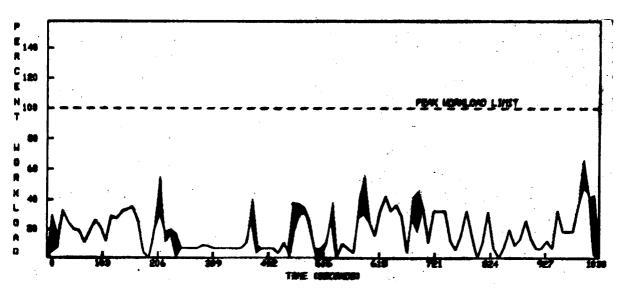


Figure C-23. Advanced Flight Deck, Copilot Tasking, Weighted Channel Average Normal ILS Approach

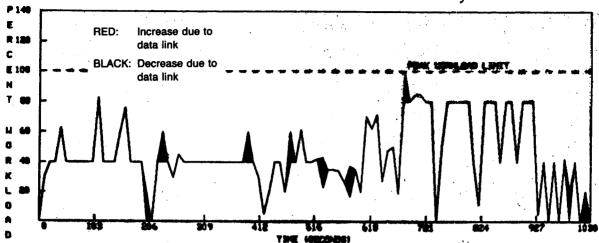


Figure C-24. Conventional Flight Deck, Pilot Tasking, Internal Vision Channel ILS Approach With Weather Deviation

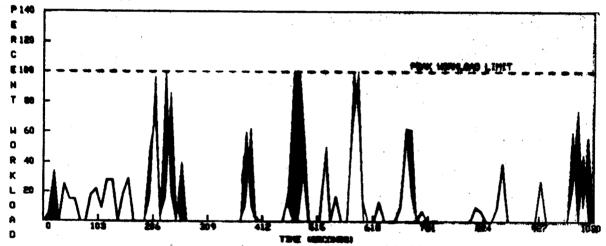


Figure C-25. Conventional Flight Deck, Pilot Tasking, Auditory Channel ILS Approach With Weather Deviation

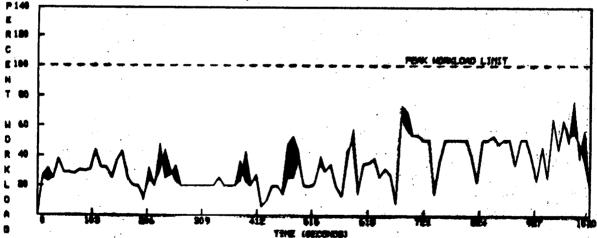


Figure C-26. Conventional Flight Deck, Pilot Tasking, Weighted Channel Average ILS Approach With Weather Deviation

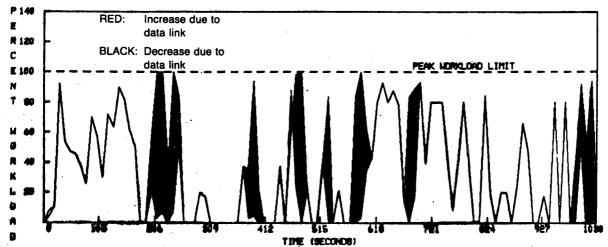


Figure C-27. Conventional Flight Deck, Copilot Tasking, Internal Vision Channel ILS Approach With Weather Deviation

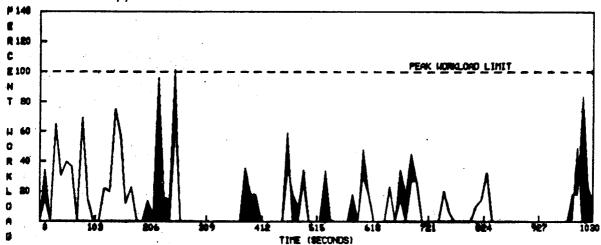


Figure C-28. Conventional Flight Deck, Copilot Tasking, Left Hand Channel ILS Approach With Weather Deviation

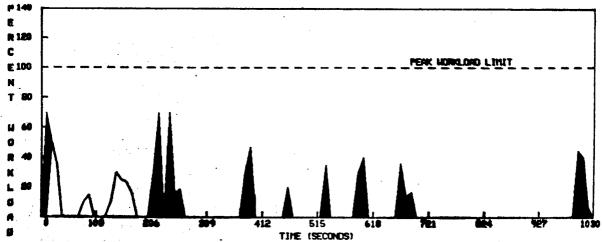


Figure C-29. Conventional Flight Deck, Copilot Tasking, Right Hand Channel ILS Approach With Weather Deviation

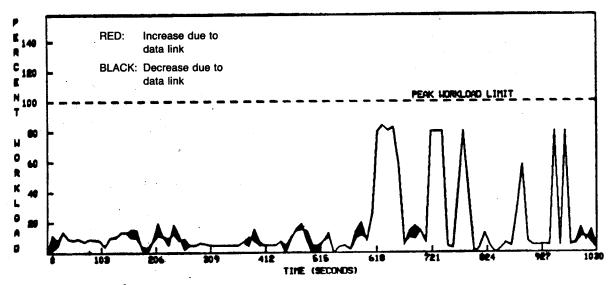


Figure C-30. Conventional Flight Deck, Copilot Tasking, Cognitive Channel ILS Approach With Weather Deviation

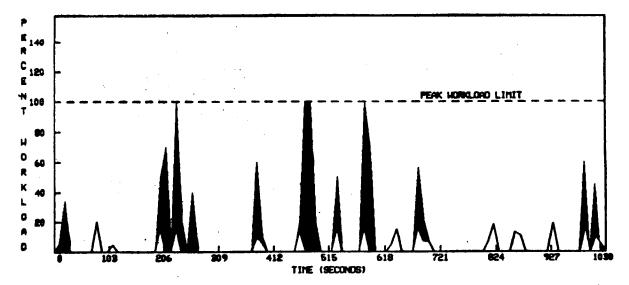


Figure C-31. Conventional Flight Deck, Copilot Tasking, Auditory Channel ILS Approach With Weather Deviation

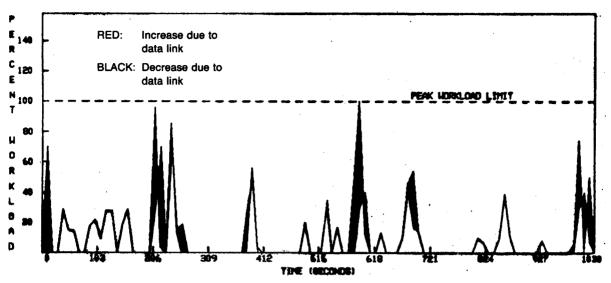


Figure C-32. Conventional Flight Deck, Copilot Tasking, Verbal Channel ILS Approach With Weather Deviation

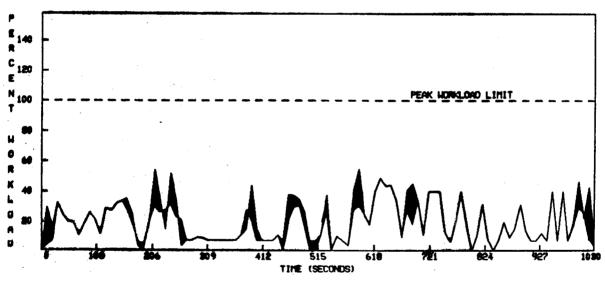


Figure C-33. Conventional Flight Deck, Copilot Tasking, Weighted Channel Average ILS Approach With Weather Deviation

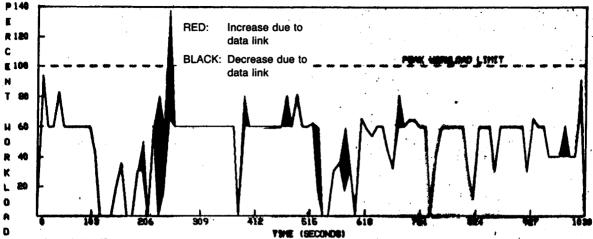


Figure C-34. Advanced Flight Deck, Pilot Tasking, Internal Vision Channel ILS Approach With Weather Deviation

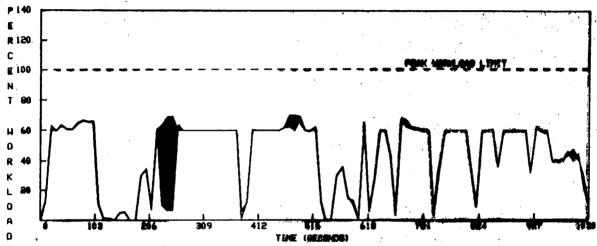


Figure C-35. Advanced Flight Deck, Pilot Tasking, Cognitive Channel ILS Approach With Weather Deviation

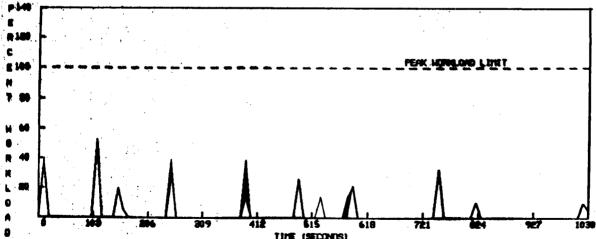


Figure C-36. Advanced Flight Deck, Pilot Tasking, Right Hand Channel ILS Approach
With Weather Deviation

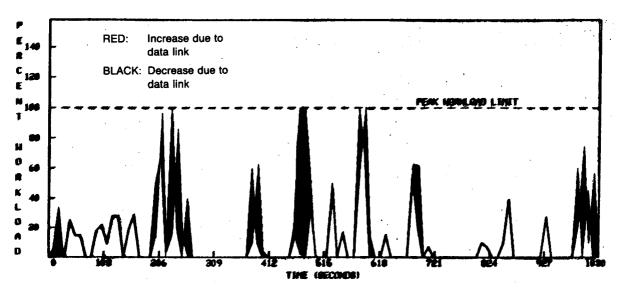


Figure C-37. Advanced Flight Deck, Pilot Tasking, Auditory Channel ILS Approach With Weather Deviation

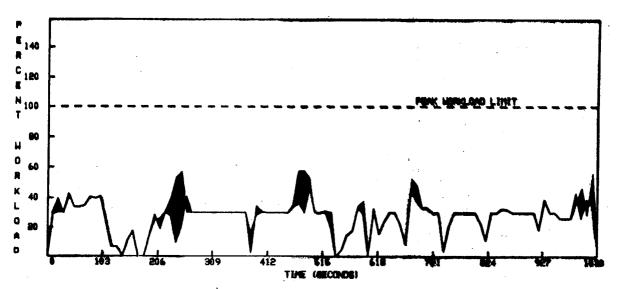


Figure C-38. Advanced Flight Deck, Pilot Tasking, Weighted Channel Average ILS Approach With Weather Deviation

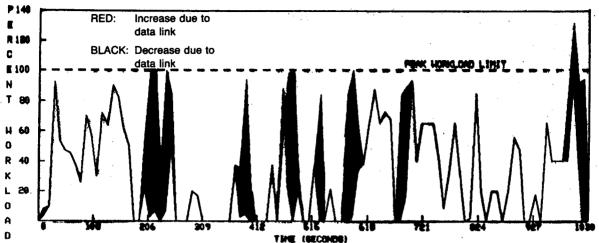


Figure C-39. Advanced Flight Deck, Copilot Tasking, Internal Vision Channel ILS Approach With Weather Deviation

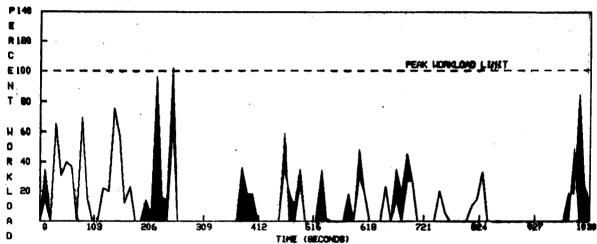


Figure C-40. Advanced Flight Deck, Copilot Tasking, Left Hand Channel ILS Approach With Weather Deviation

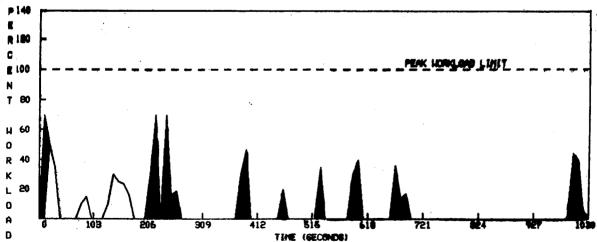


Figure C-41. Advanced Flight Deck, Copilot Tasking, Right Hand Channel ILS Approach
With Weather Deviation

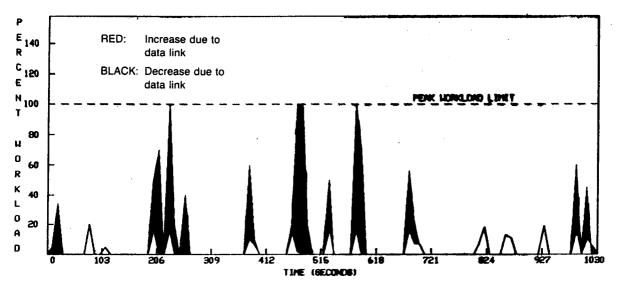


Figure C-42. Advanced Flight Deck, Copilot Tasking, Auditory Channel ILS Approach With Weather Deviation

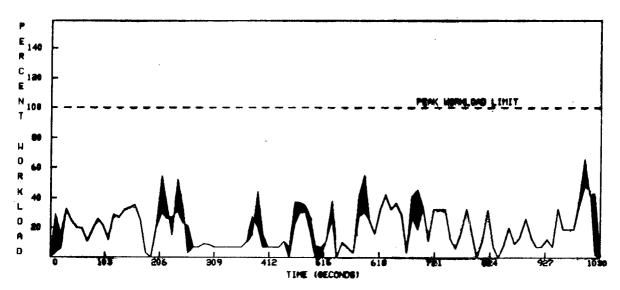


Figure C-43. Advanced Flight Deck, Copilot Tasking, Weighted Channel Average ILS Approach With Weather Deviation

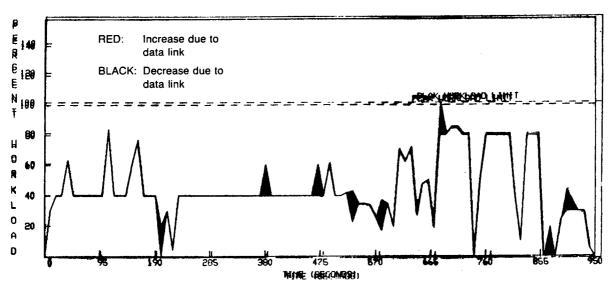


Figure C-44. Conventional Flight Deck, Pilot Tasking, Vision Internal Channel ILS Missed Approach With Reroute

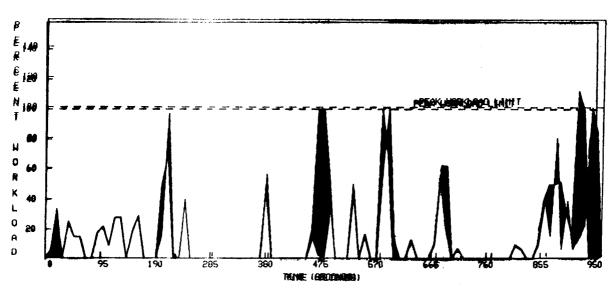


Figure C-45. Conventional Flight Deck, Pilot Tasking, Auditory Channel ILS Missed Approach With Reroute

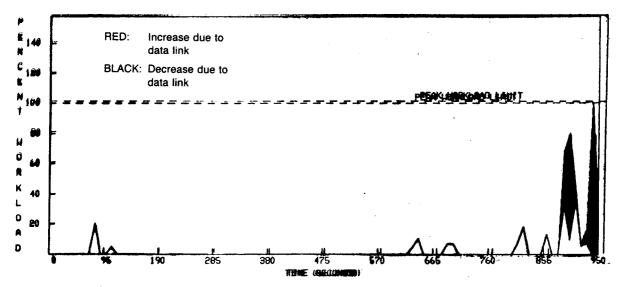


Figure C-46. Conventional Flight Deck, Pilot Tasking, Verbal Channel ILS Missed Approach With Reroute

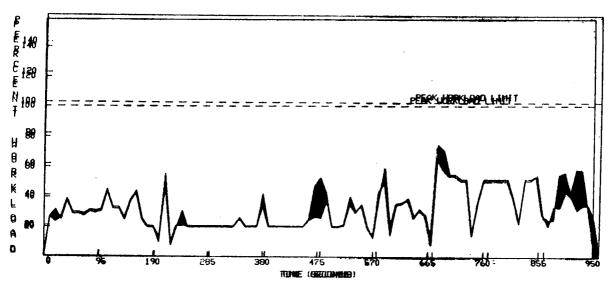


Figure C-47. Conventional Flight Deck, Pilot Tasking, Weighted Channel Average ILS Missed Approach With Reroute

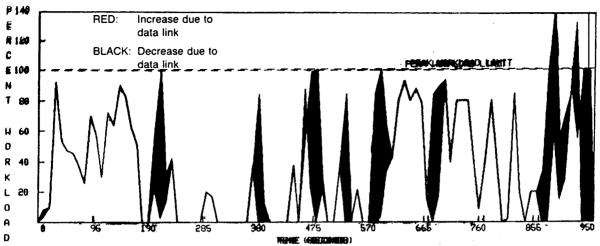


Figure C-48. Conventional Flight Deck, Copilot Tasking, Internal Vision Channel ILS Missed Approach With Reroute

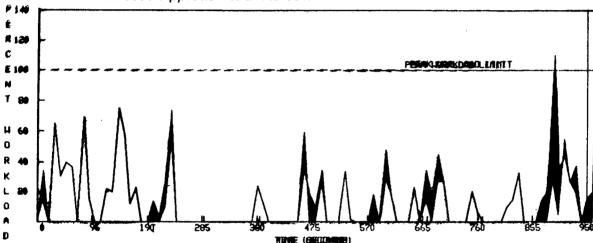


Figure C-49. Conventional Flight Deck, Copilot Tasking, Left Hand Channel ILS Missed Approach With Reroute

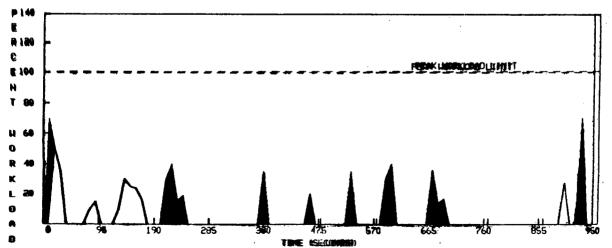


Figure C-50. Conventional Flight Deck, Copilot Tasking, Right Hand Channel ILS Missed Approach With Reroute

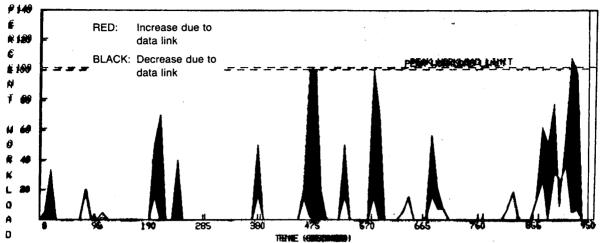


Figure C-51. Conventional Flight Deck, Copilot Tasking, Auditory Channel ILS Missed Approach With Reroute

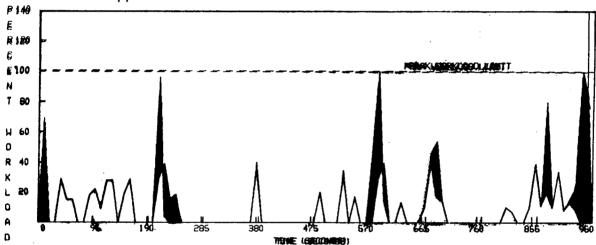


Figure C-52. Conventional Flight Deck, Copilot Tasking, Verbal Channel ILS Missed Approach With Reroute

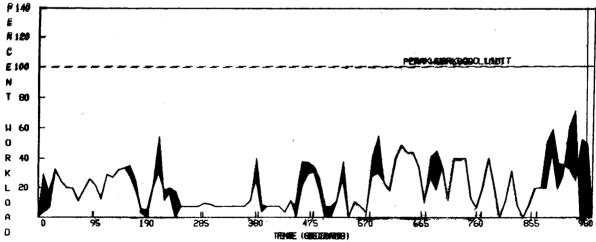


Figure C-53. Conventional Flight Deck, Copilot Tasking, Weighted Channel Average ILS Missed Approach With Reroute

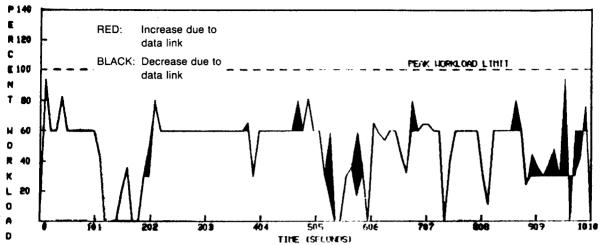


Figure C-54. Advanced Flight Deck, Pilot Tasking, Internal Vision Channel ILS Missed Approach With Reroute

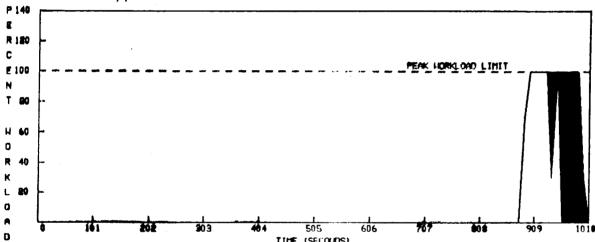


Figure C-55. Advanced Flight Deck, Pilot Tasking, Left Hand Channel ILS Missed Approach With Reroute

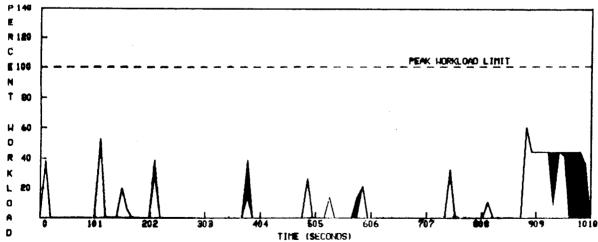


Figure C-56. Advanced Flight Deck, Pilot Tasking, Right Hand Channel ILS Missed Approach With Reroute

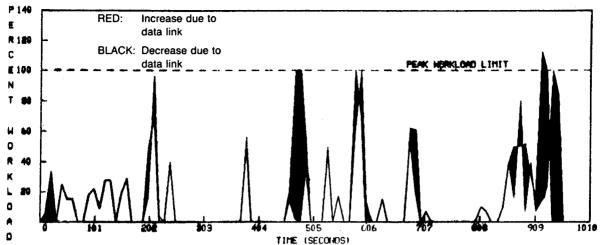


Figure C-57. Advanced Flight Deck, Pilot Tasking, Auditory Channel ILS Missed Approach With Reroute

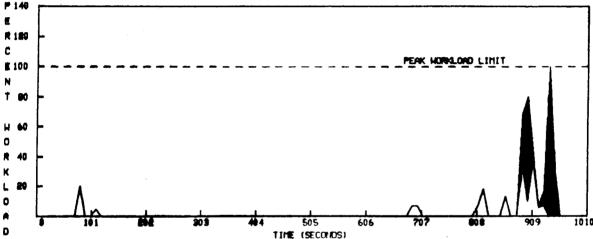


Figure C-58. Advanced Flight Deck, Pilot Tasking, Verbal Channel ILS Missed Approach With Reroute

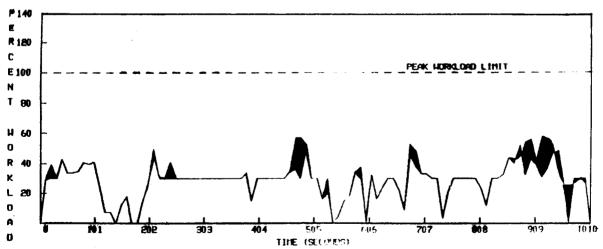


Figure C-59. Advanced Flight Deck, Pilot Tasking, Weighted Channel Average ILS Missed Approach With Reroute

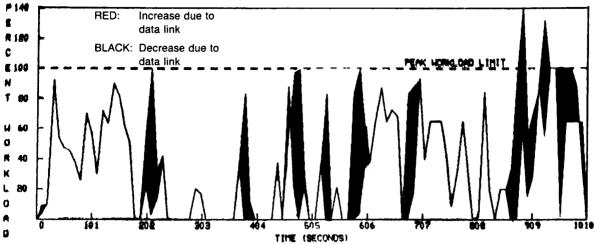


Figure C-60. Advanced Flight Deck, Copilot Tasking, Internal Vision Channel ILS Missed Approach With Reroute

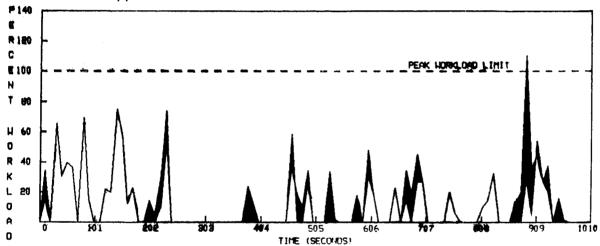


Figure C-61. Advanced Flight Deck, Copilot Tasking, Left Hand Channel ILS Missed Approach With Reroute

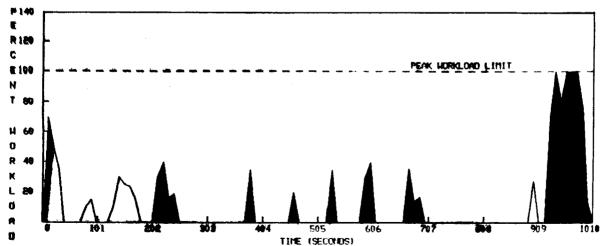


Figure C-62. Advanced Flight Deck, Copilot Tasking, Right Hand Channel ILS Missed Approach With Reroute

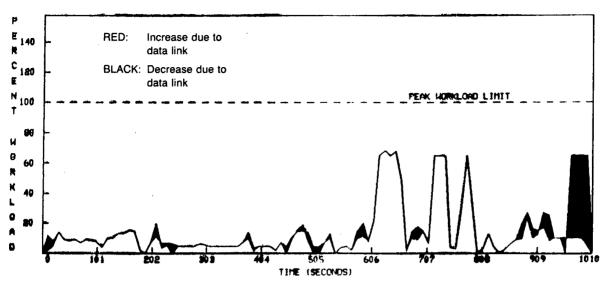


Figure C-63. Advanced Flight Deck, Copilot Tasking, Cognitive Channel ILS Missed Approach With Reroute

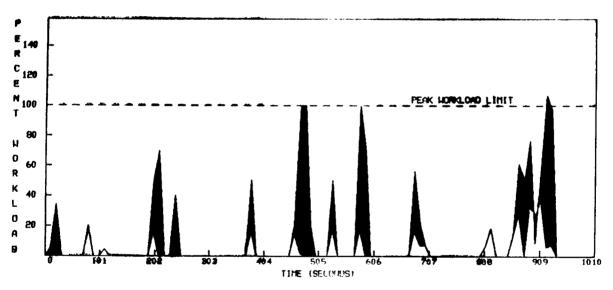


Figure C-64. Advanced Flight Deck, Copilot Tasking, Auditory Channel ILS Missed Approach With Reroute

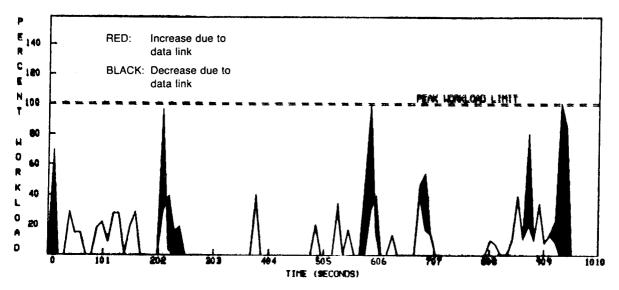


Figure C-65. Advanced Flight Deck, Copilot Tasking, Verbal Channel ILS Missed Approach With Reroute

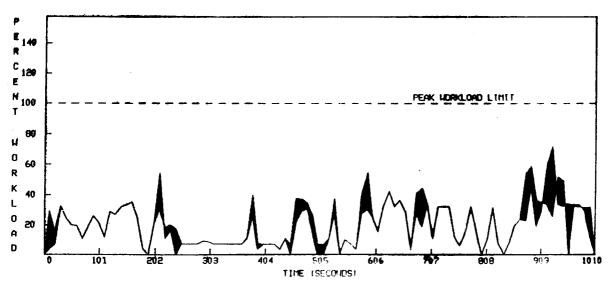


Figure C-66. Advanced Flight Deck, Copilot Tasking, Weighted Channel Average ILS Missed Approach With Reroute

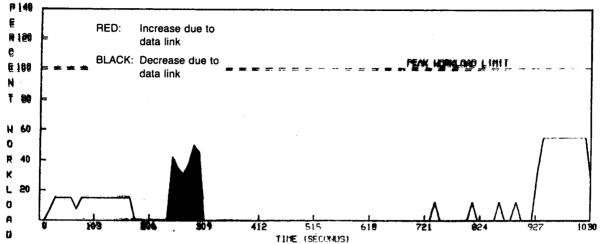


Figure C-67. Conventional Flight Deck, Pilot Tasking, External Vision Channel ILS Approach With TCAS Encounter

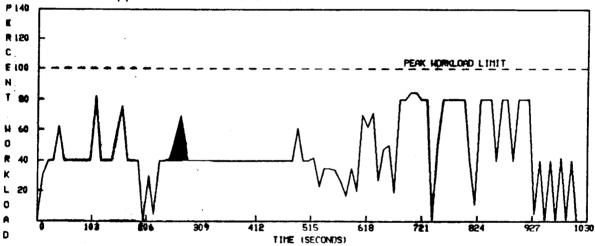


Figure C-68. Conventional Flight Deck, Pilot Tasking, Internal Vision Channel ILS Approach With TCAS Encounter

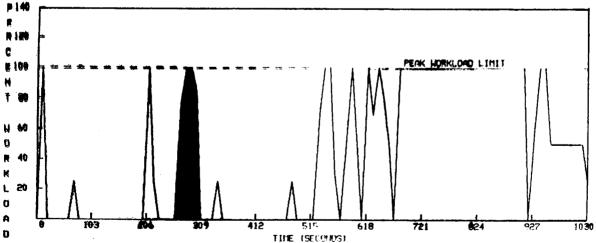


Figure C-69. Conventional Flight Deck, Pilot Tasking, Left Hand Channel ILS Approach With TCAS Encounter

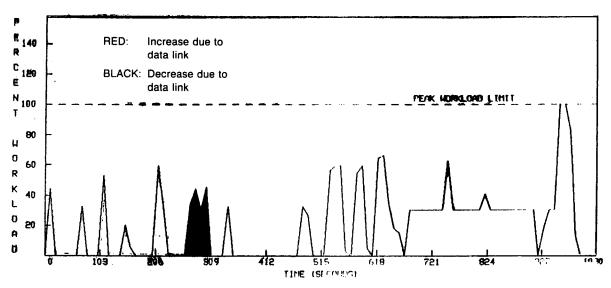


Figure C-70. Conventional Flight Deck, Pilot Tasking, Right Hand Channel ILS Approach With TCAS Encounter

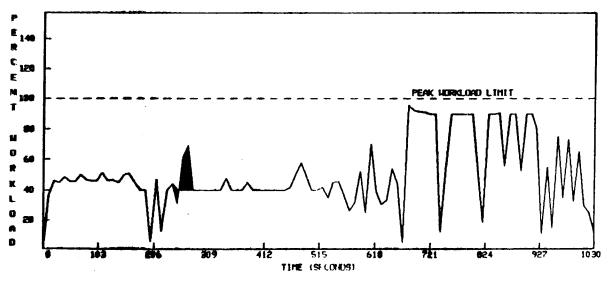


Figure C-71. Conventional Flight Deck, Pilot Tasking, Cognitive Channel ILS Approach With TCAS Encounter

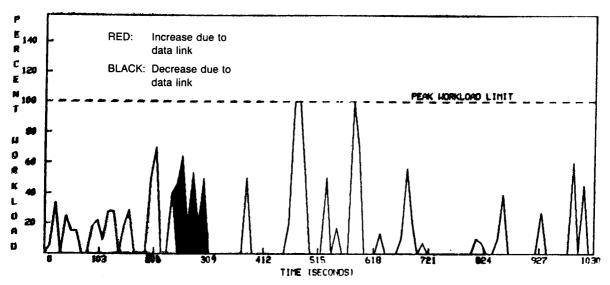


Figure C-72. Conventional Flight Deck, Pilot Tasking, Auditory Channel ILS Approach With TCAS Encounter

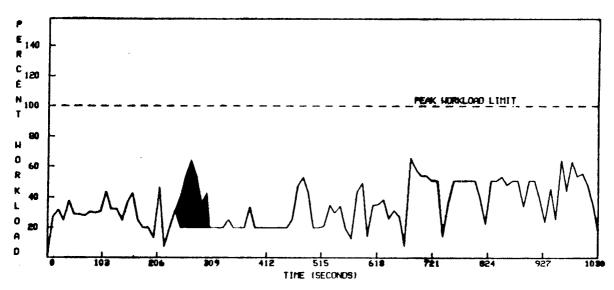


Figure C-73. Conventional Flight Deck, Pilot Tasking, Weighted Channel Average ILS Approach With TCAS Encounter

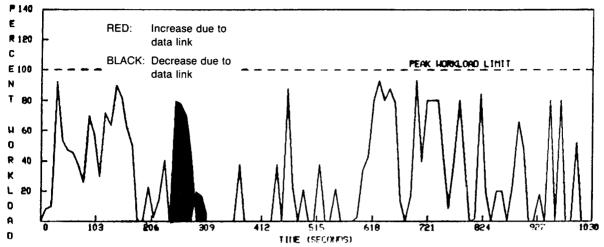


Figure C-74. Conventional Flight Deck, Copilot Tasking, Internal Vision Channel ILS Approach With TCAS Encounter

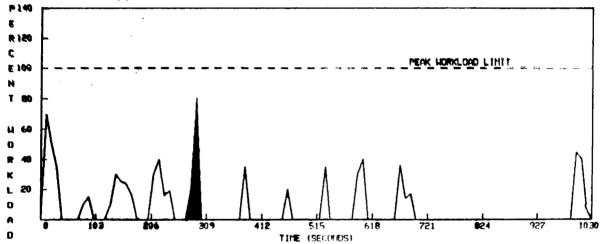


Figure C-75. Conventional Flight Deck, Copilot Tasking, Right Hand Channel ILS Approach With TCAS Encounter

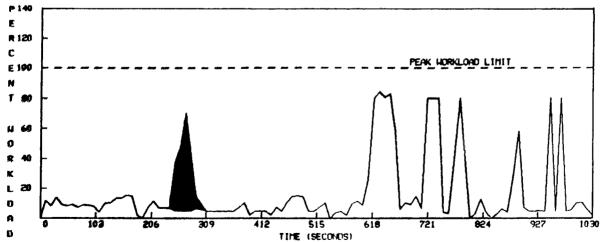


Figure C-76. Conventional Flight Deck, Copilot Tasking, Cognitive Channel ILS Approach With TCAS Encounter

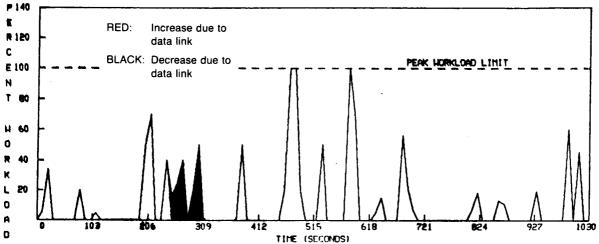


Figure C-77. Conventional Flight Deck, Copilot Tasking, Auditory Channel ILS Approach
With TCAS Encounter

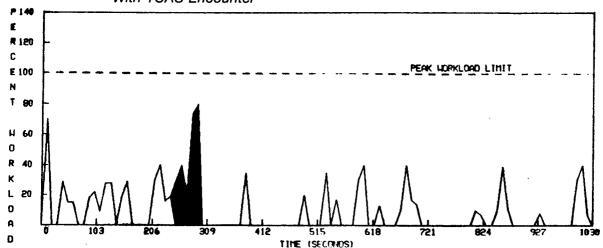


Figure C-78. Conventional Flight Deck, Copilot Tasking, Verbal Channel ILS Approach With TCAS Encounter

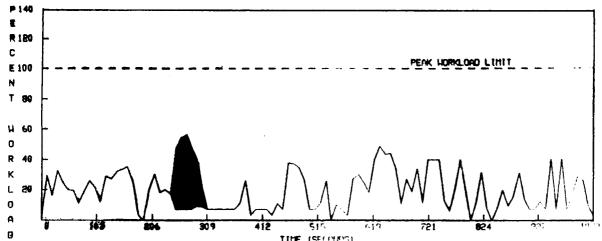


Figure C-79. Conventional Flight Deck, Copilot Tasking, Weighted Channel Average ILS Approach With TCAS Encounter

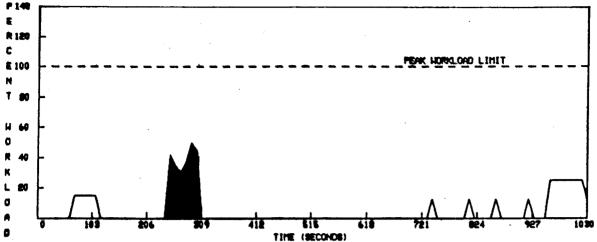


Figure C-80. Advanced Flight Deck, Pilot Tasking, External Vision Channel ILS Approach With TCAS Encounter

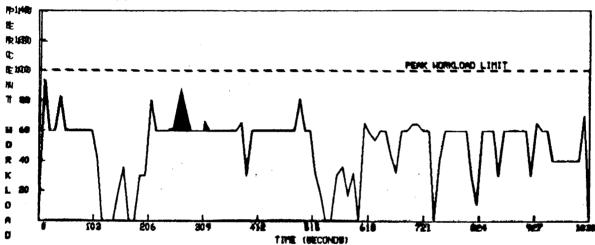


Figure C-81. Advanced Flight Deck, Pilot Tasking, Internal Vision Channel ILS Approach With TCAS Encounter

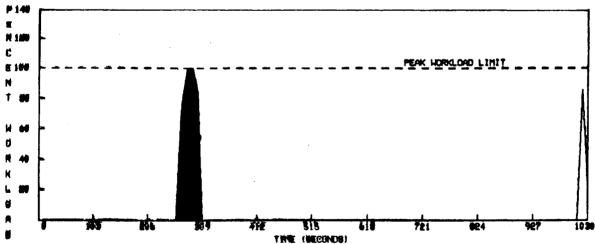


Figure C-82. Advanced Flight Deck, Pilot Tasking, Left Hand Channel ILS Approach
With TCAS Encounter

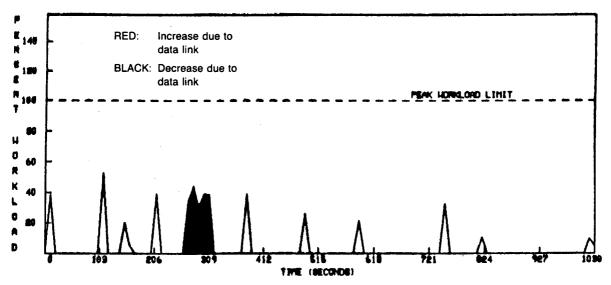


Figure C-83. Advanced Flight Deck, Pilot Tasking, Right Hand Channel ILS Approach With TCAS Encounter

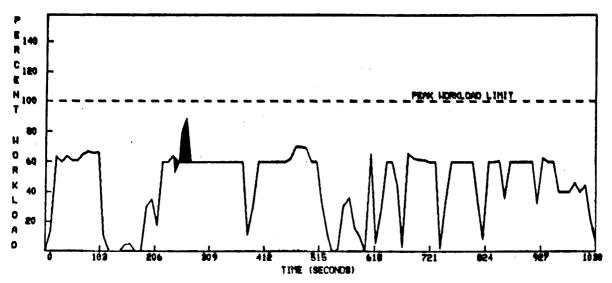


Figure C-84. Advanced Flight Deck, Pilot Tasking, Cognitive Channel ILS Approach With TCAS Encounter

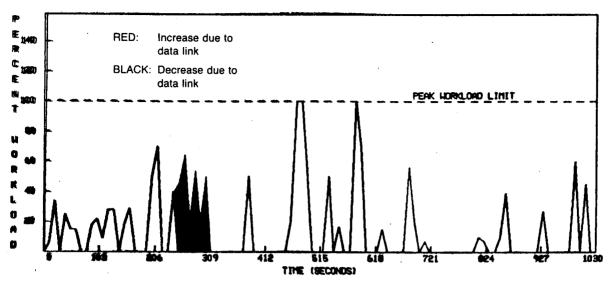


Figure C-85. Advanced Flight Deck, Pilot Tasking, Auditory Channel ILS Approach With TCAS Encounter

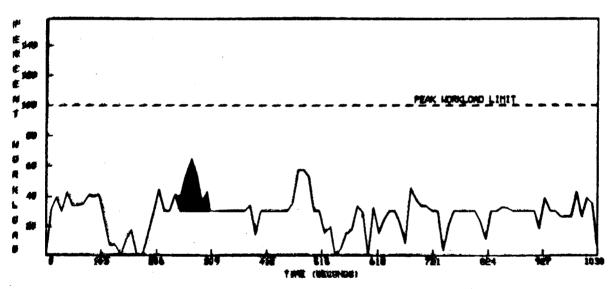


Figure C-86. Advanced Flight Deck, Pilot Tasking, Weighted Channel Average ILS Approach With TCAS Encounter

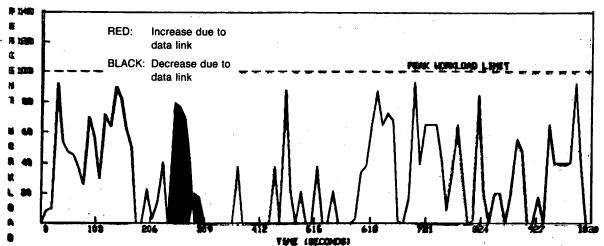


Figure C-87. Advanced Flight Deck, Copilot Tasking, Internal Vision Channel ILS Approach With TCAS Encounter

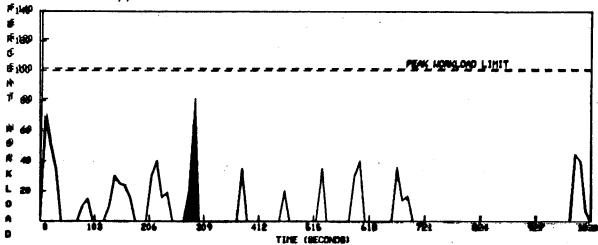


Figure C-88. Advanced Flight Deck, Copilot Tasking, Right Hand Channel ILS Approach With TCAS Encounter

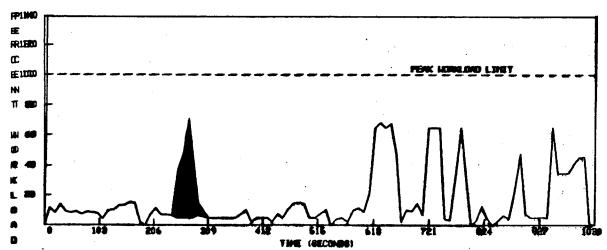


Figure C-89. Advanced Flight Deck, Copilot Tasking, Cognitive Channel ILS Approach With TCAS Encounter

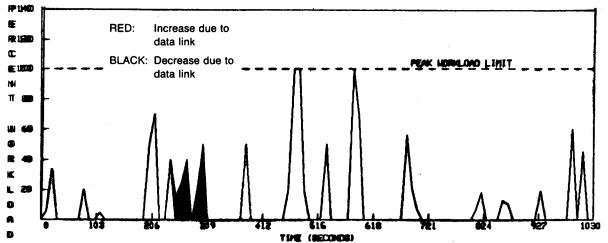


Figure C-90. Advanced Flight Deck, Copilot Tasking, Auditory Channel ILS Approach With TCAS Encounter

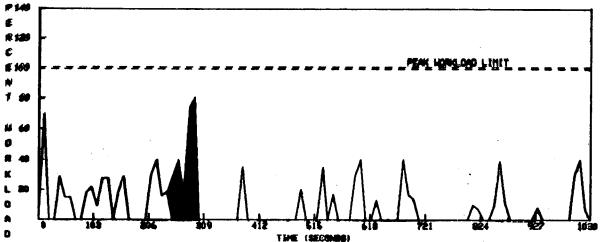


Figure C-91. Advanced Flight Deck, Copilot Tasking, Verbal Channel ILS Approach With TCAS Encounter

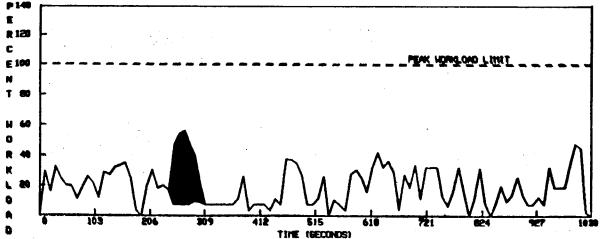


Figure C-92. Advanced Flight Deck, Copilot Tasking, Weighted Channel Average ILS Approach With TCAS Encounter